

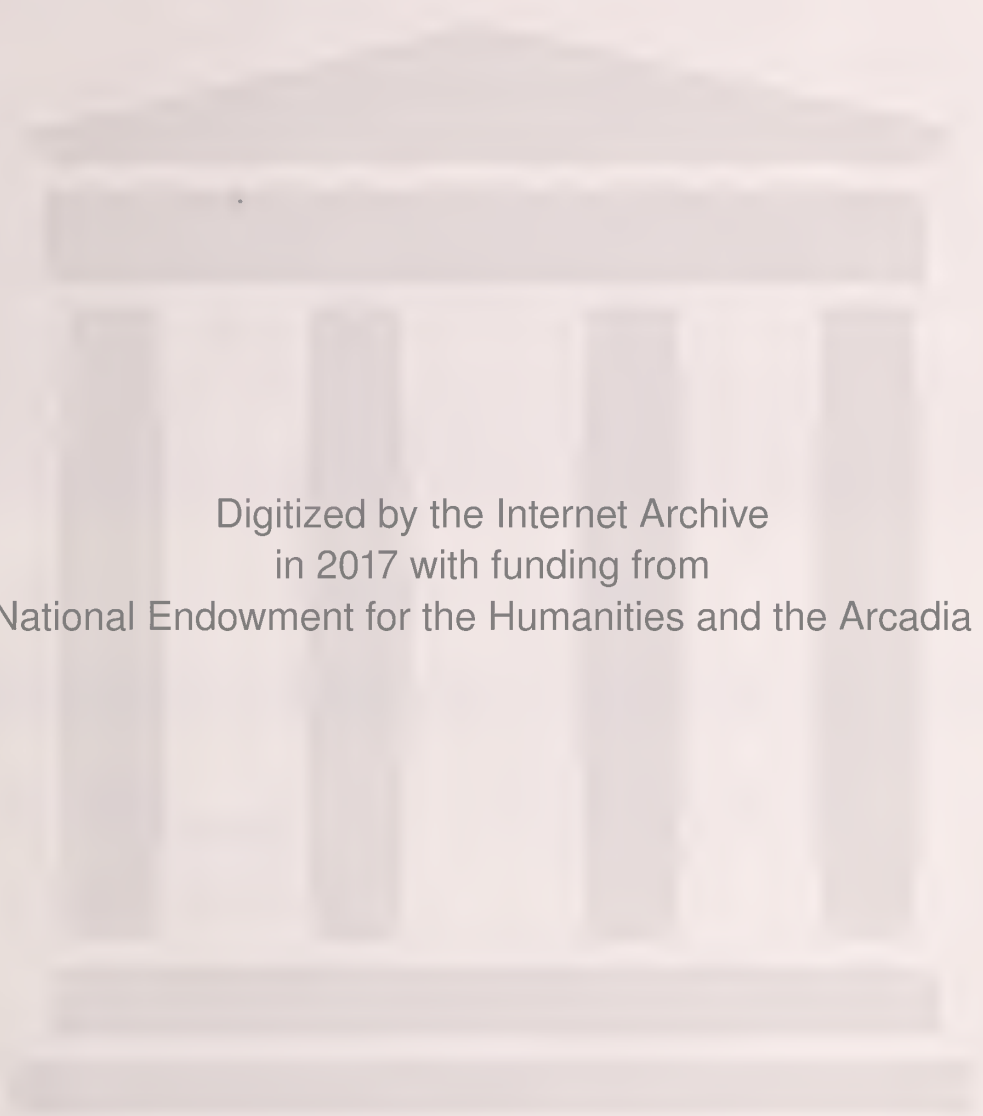
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14 #1
SOUTH DAKOTA



Journal

★ MEDICINE *and* PHARMACY ★

PUBLISHED MONTHLY BY THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
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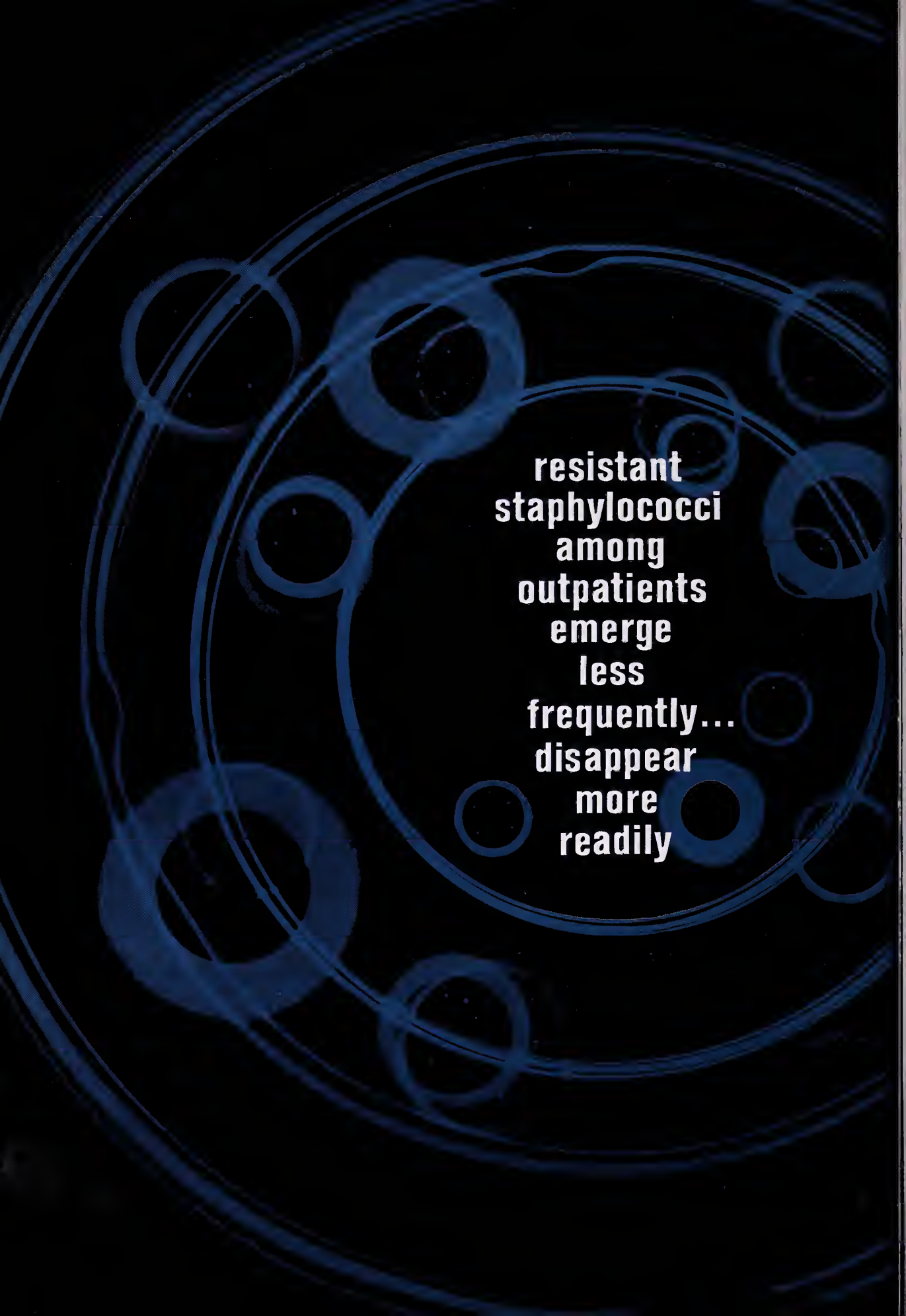
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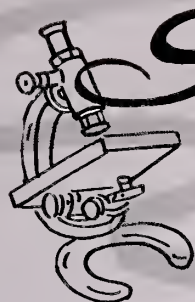
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Scientific

P A P E R

RETICULUM CELL SARCOMA OF THE SCAPULA; FIVE YEAR CURE FOLLOWING FORE-QUARTER AMPUTATION AND IRRADIATION*

Robert E. Van Demark, M.D., F.A.C.S.
and

Charles B. Mitchell, M.D., F.A.C.P.
Sioux Falls, South Dakota

Death usually follows a sarcoma of the scapula which has extensively invaded the soft tissues of the shoulder. This well founded, though pessimistic rule, is not invariably true and depends somewhat on the type of sarcoma present.

One type of sarcoma which gives a better prognosis than the average is a reticulum cell sarcoma. Parker and Jackson³ in their classic paper, differentiated this condition from Ewing's sarcoma in which many of these cases previously classified.

Involvement of the scapula by this reticulum sarcoma is relatively infrequent. The majority of the lesions occur in the long bones, particularly about the knee. The symptoms of pain, which is often referred to the adjacent joint, disability and swelling may be of relative long duration. The general appearance of the patient is usually good despite the presence of a rather extensive tumor.

Dahlin¹ in 1957, in a summary of the cases seen at the Mayo Clinic, reported only 5 cases of reticulum cell sarcoma involving the scapula. It would seem worthwhile to report an additional case which emphasizes the relatively good prognosis with this particular type of sarcoma.

* Case presentation at the Meeting of the Surgical Staff, Sioux Valley Hospital, Sioux Falls, South Dakota, August 16, 1960.

CASE REPORT

A white male, age 49, farmer by occupation, was referred to us on January 5, 1955, because of pain and tumor in the right axillary region. The patient had a palpable mass involving the soft tissues along the lateral margin of the scapula. X-rays showed a destructive lesion of the lateral margin of the scapula with osteolytic areas along the inferior glenoid and lateral border of the scapula. (Fig. 1). Patient's sedimentation rate was elevated to 66 mm. per hour.

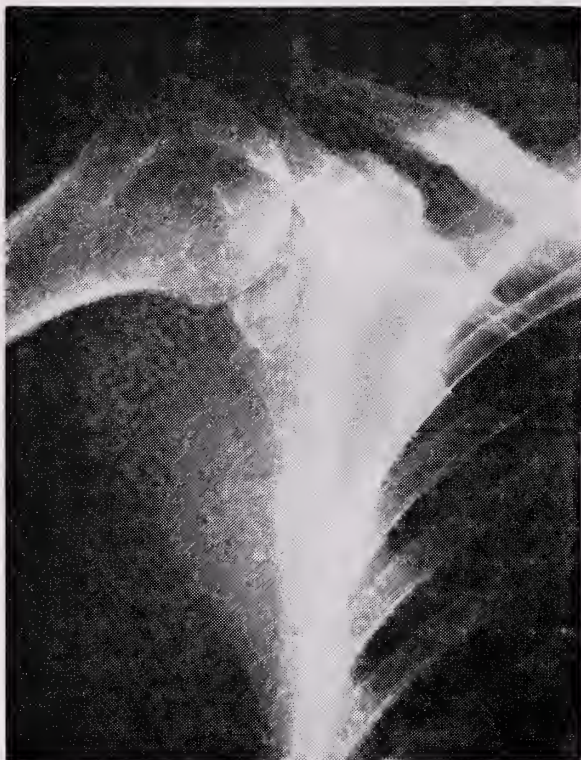


Fig. 1. Roentgenogram of the right scapula showing extensive destruction of the lateral margin of the scapula and the overlying soft tissue mass.

Roentgenographic examination of the chest showed no evidence of metastases. Patient was admitted to the hospital where a biopsy was performed. A frozen section showed a malignancy and a fore-quarter amputation was performed.

The pathological report was as follows:

"Gross: The specimen consists of a right hand, lower arm and upper arm as well as scapula and the attached subcutaneous, muscular and integumentary tissues. The specimen is moderately blood stained in the lines of excision, but otherwise is not remarkable, except for an old healed 3½ cm. scar in the

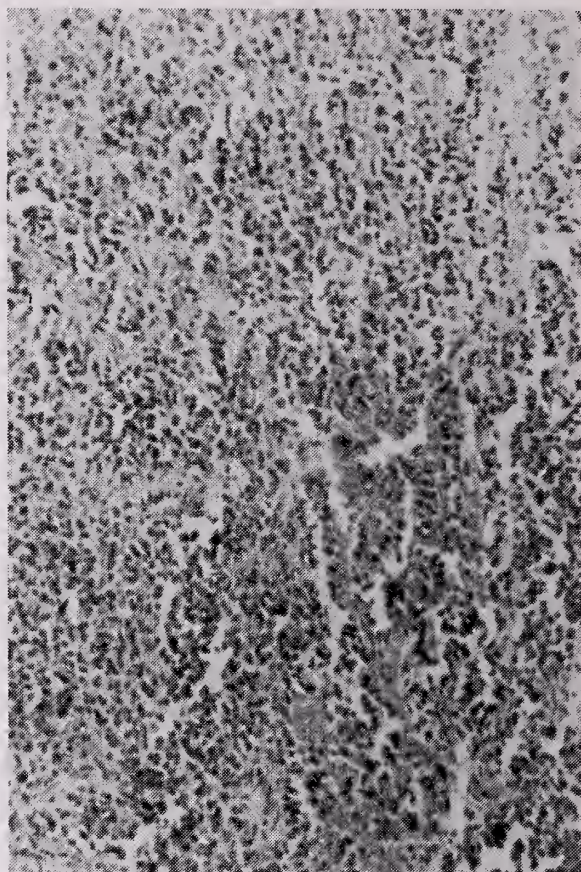


Fig. 2. Photomicrograph of reticulum cell sarcoma with hemotoxylin and eosin stain (x 120).

lateral aspect just above the insertion of deltoid. On section through the area of the scapula, a large mass of tissue measuring 23 x 20 x 18 cm. is found yellowish-tan in color, firm in consistency and somewhat rubbery. This mass of tissue is in direct continuity with and definitely involves the bony portion of the scapula in large areas and particularly along the lateral margins. There is an extension into the region of the axillary tissue by this malignant appearing tissue. However, good lines of resection are present between the edges of the tumor mass and the lines of resection. Thus, tumor appears to be completely excised grossly. No evidence of bony formation is found in the tumor itself. There is definite invasion of surrounding tissue including muscle and connective tissue to a rather marked degree.

Microscopic: Sections reveal masses of very dark pyknotic, deeply basophilic staining nuclei showing poorly defined cytoplasmic margins in many areas with multiple foci of early necrosis and degeneration disseminated

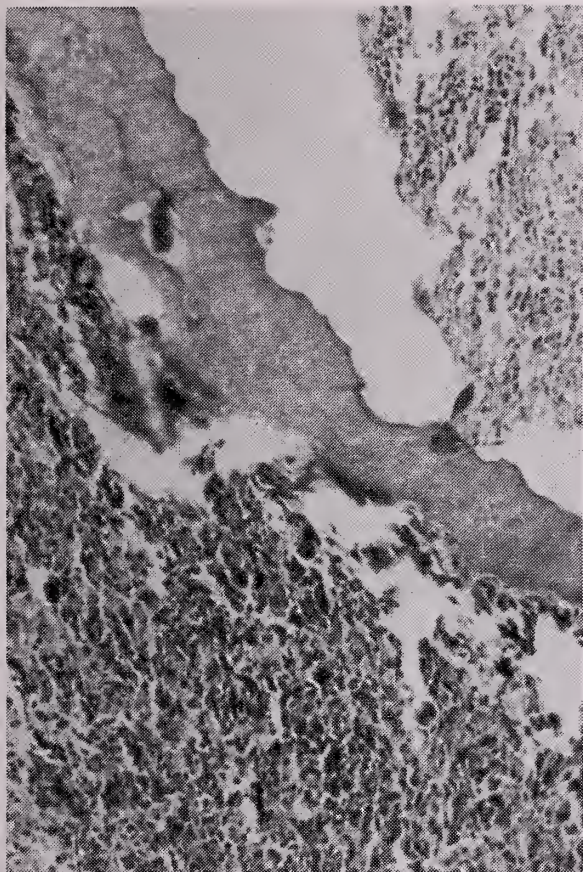


Fig. 3. Invasion of the bone by the tumor is evident in this photomicroph (x 120).

throughout the specimen. It is embedded on a matrix of dense fibrous stroma. These cells appear to form slit-like spaces and line them; however, this may be artifact due to shrinkage of fixation and pulling away of the various cell strands into two or three divisions with the connective tissue shrinking not as much as the softer and more cellular neoplastic tissue. Multiple sections fail to reveal any definite osteogenesis except in the vicinity of the periosteum and this could very well be reaction on the part of the periosteum in that tumor cells do not appear to be present in the immediate vicinity of the newly forming bone and since it is confined solely to the periosteum it is my opinion and interpretation that this represents periosteum laying down new bone rather than being new bone formation by neoplastic cells.

The sections through the scapula reveal infiltration of marrow spaces by the atypical elements. These malignant cells both external to bone and inside of bone show, at

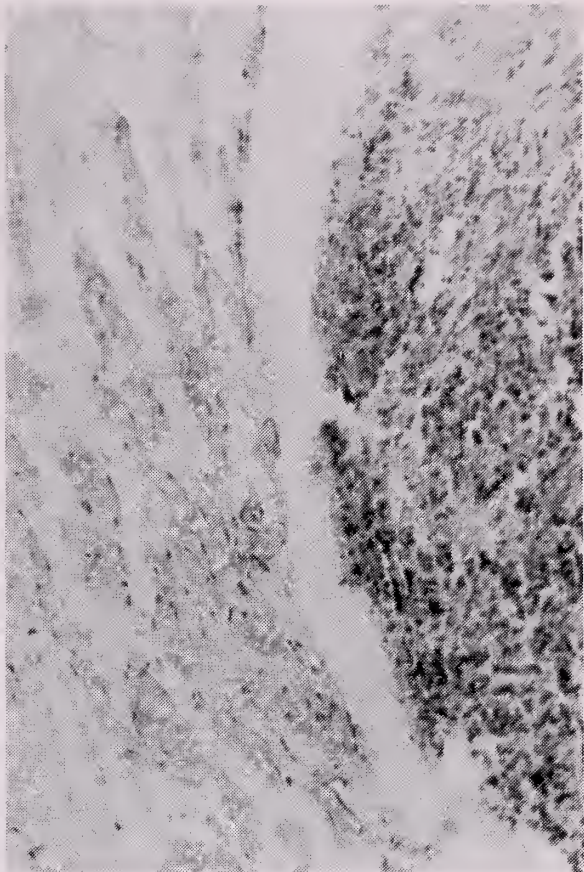


Fig. 4. Muscle likewise has been invaded (x 120). (The cleft between the involved and uninvolved muscle occurred during the preparation of the slide).

times, areas of marked pleomorphism with the cells varying greatly in size, shape and configuration. Many times being spindle in character. For this reason lesion is not a lymphosarcoma and it does not confirm to Lichtenstein's criteria for Ewing's, although that is another distinct possibility. Undifferentiated carcinoma does not usually give this pattern. Diagnosis: Reticulum Cell Sarcoma of Right Scapula.

Marked invasion of surrounding periscapular tissue. Lesion appears to be completely excised."

The patient's post-operative course was uneventful, and two and one-half months after surgery his sedimentation rate had dropped to 8 mm. per hour and his chest x-ray remained negative. He received deep x-ray therapy to the right posterior and lateral chest wall, upper and middle portions, and daily increments of 250 R to a total of 2000 R over an 8 day period.

In 1956 the patient suffered with an attack

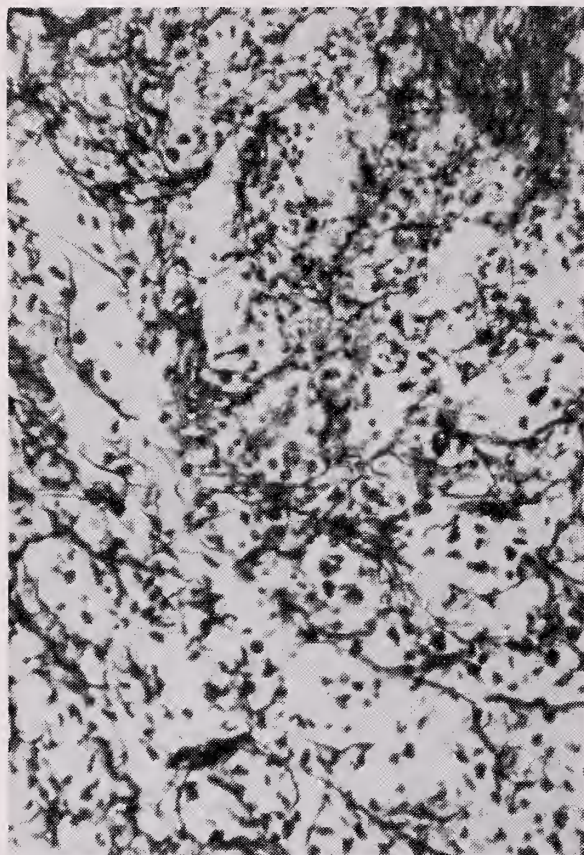


Fig. 5. Reticulum stain, showing the typical reticulum about the tumor cells, the characteristic finding in this sarcoma.



Fig. 6. Roentgenogram of chest showing no evidence of metastases 68 months after amputation.

of pneumonitis with his sedimentation rate rising to 29 mm. per hour (Westergren) and his x-rays being reported as follows: "Chest: There has been no change from the last examination. There are no visible metastases." His sedimentation rate subsequently fell to normal level with disappearance of clinical symptoms and findings. His last x-ray was reported as follows: "Both lungs are clear." (Fig. 6).

The patient has worked on his farm continuously since his surgery and manages it without hired help. He does not wish to have a prosthesis, which he feels will be in his way.

COMMENTS

This case demonstrates the favorable results sometimes seen in reticulum sarcoma involving bone and invading the adjacent soft tissues. Currently it appears that amputation or wide local resection in conjunction with radiation therapy is the most reliable form of treatment in this particular type of case.

P.S. As of December 27, 1960, almost 6 years post-surgical, this patient remains in good health.

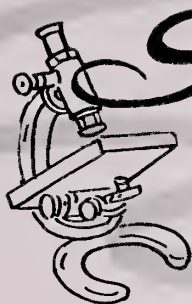
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JAMES ELGIN HOLLINGSWORTH, M.D.

1878-1960

Dr. James E. Hollingsworth passed away at Yankton Hospital on Wednesday, November 9, after a heart attack. For many years, he had practiced in Avon and currently was not in active practice. Dr. Hollingsworth was born in Buckingham, Quebec, Canada, December 28, 1878, and at the age of 14 came to South Dakota with his mother after his father had passed away. He entered the University of South Dakota where he studied for four years and then entered McGill University in Montreal where he graduated in 1902 with a degree of Doctor of Medicine. He began his practice that same year in Avon, where he practiced for a total of 52 years. He married Miss Pearl Burgess in 1904 at Vermillion. A son, Henry Lee, preceded him in death. Survivors include his widow and two sons, Lyman B. and James E., Jr., both practicing medicine in Boise, Idaho.



Scientific

P A P E R

SEVERE HYPOGLYCEMIA DUE TO MESOTHELIOMA ARISING IN PLEURAL CAVITY: CASE REPORT

**Gordon S. Paulson, M.D., F.A.C.P.,
John J. Feehan, M.D., and
Robert S. Westaby, Jr., M.D.,
Rapid City, South Dakota**

The medical literature in recent years has carried a number of case reports in which severe hypoglycemic symptoms have apparently been caused by large non-pancreatic tumors. This relationship appears to be more than fortuitous because in several of the instances reported the hypoglycemia has been completely cured by removal of the tumor. From a pathologic point of view these tumors have few features in common and do not present a uniform histologic picture. Their one consistent feature appears to be their large size. The present case, which follows closely the clinical pattern presented by those previously reported, is presented because of the rarity of the syndrome. As far as can be determined, there have been fewer than 30 case reports of severe hypoglycemia produced by large non-pancreatic tumors.

The patient, a 72 yr. old white male, was first seen in consultation on May 30, 1959 because of a history of spells of unconsciousness known to be associated with extremely low blood sugar levels since December 1958, when he was living in Texas. Upon the basis of symptoms to be described presently, a diagnosis of hyperinsulinism had been made and on December 15, 1958 he had had a resection of "fourth-fifths of the pancreas." His hypo-

glycemia spells continued unabated following surgery and probably even became worse. Correspondence with the pathologist who examined the resected pancreatic tissue revealed that it was his impression that the patient had a "peculiar multi-focal hyperplasia of islet like tissue in the body and tail of the pancreas." The pathologist's description was lengthy and suggested that the resected tissue was difficult to interpret microscopically. There were, however, no islet cell tumors in the resected body and tail of the pancreas. Efforts on our part to secure sections of the pancreas for re-examination by our pathologists were unsuccessful. In his report to us the Texas physician remarked that the patient also had a "large cyst in the left lung" which apparently had not been regarded as important.

Most of the patient's spells had occurred in the morning before breakfast. The patient stated that the spells came without premonitory aura and that he was completely unaware of what actually happened during the attacks. He believed that he had never had convulsions during his spells. He was aware of the fact that during his spells he would fight and resist attempts to administer oral or intravenous sugar, which, when given however, always effected a complete and immediate recovery.

He was cold during his spells but he did not know whether he perspired excessively or not. He had never fallen during an attack nor sustained any injury such as a bitten tongue. He suspected that physical exertion on some occasions had precipitated spells. Prior to his pancreatic surgery in Texas he had had only two spells. Between the time of his operation and our first examination in May 1959, he had had as many spells as 3 times a week and had experienced occasional remissions lasting as long as several weeks.

The family history was essentially non-contributory. There was no recognized familial disease or endocrine disturbance. His past history likewise was essentially negative. There had been no serious injuries or illnesses. The pancreatic resection in December 1958 has been his first major operation and his first hospital experience in a lifetime. He denied the excessive use of tobacco or liquor.

There was no headache problem. There were no symptoms suggestive of disease of

the lungs or cardiovascular system. There was no reason in the history to suspect disorder of the gastrointestinal system or urinary tract. He was remarkably free of symptoms other than those associated with his hypoglycemic spells.

The physical examination was that of a well developed, rather husky, 72 year old retired white male who did not appear acutely ill at the time of the first examination. The blood pressure was 160 systolic and 90 diastolic. The pulse was 72 and regular. His complexion was ruddy and color good. The head was negative and the neck was supple. No goiter or lymphadenopathy could be felt. The pupils were round, regular, equal and reactive. The extraocular movements were normal. Bilateral annulus senilis was present. The mouth was edentulous and there was no lingual atrophy. The chest was clear and resonant to auscultation and percussion; no rales or wheezes were heard. The heart was normal in size, sounds and rhythm. No murmurs were heard and the sounds were of good quality. Palpation of the abdomen revealed no masses, enlarged viscera or areas of tenderness. The genitalia were normal adult male except for slight atrophy of one testicle. Digital examination of the rectum revealed a prostate which was only slightly enlarged, moderately firm and not tender. The skin was rather finely wrinkled throughout. The body hair was normal and abundant and there was no abnormal skin pigmentation. There was no tenderness of the spine nor evidence of arthritis of the peripheral joints except moderate osteoarthritic changes in the hands. Good pulsations were felt in both femoral, dorsalis pedis and posterior tibial arteries. There was no pretibial edema or varicose veins. The knee jerks and ankle jerks were brisk and equal.

Appropriate laboratory tests were ordered to rule out disease of the liver, pituitary, thyroid and adrenal cortex.

Liver function was adjudged to be normal on the basis of a prothrombin time of 100 percent; thymol turbidity 0.6 units; bromsulphalein 4 percent retention in 45 minutes; and a normal bilirubin level. Adrenal cortical function was considered normal on the basis of a normal Kepler-Power water test; 17-ketosteroids of 11 mg. in 24 hours; and a nor-

mal response of the direct eosinophil count and 17-ketosteroids to stimulation with ACTH. The basal metabolic rate was plus 11; the 24 hour uptake of I-131 was 33 percent and the 24 hour urinary excretion of I-131 was 53 percent. The protein bound iodine was determined to be 5.2 micrograms. Based upon these findings, thyroid function was considered within normal limits.

Serum calcium was 9 mg. percent; alkaline phosphatase 2.6 Bodansky units; phosphorus 4.1 mg. percent; CO₂ combining capacity 29 mEq.; chlorides 105 mEq.; sodium 28 mEq.; and potassium 3.6 mEq. The leukocyte count was 6,650; Hgb. 15.3 gms.; Hematocrit 46 and sedimentation rate 25 mm. in 1 hour (Westergren.) A routine blood VDRL was negative. A routine urine analysis revealed 2+ albumin and 8 to 10 WBC per HPF.

Pituitary function was considered normal on the basis of normal thyroid and adrenal cortical function studies.

X-ray studies of the skull were interpreted to be normal. Roentgenograms of the chest showed a football size and shaped homogeneous density almost obscuring all pulmonary detail in the left hemithorax. (Figure 1) The mass was 33 cms. in its long axis and about 16 cms. in its shorter axis. It displaced the trachea towards the right side and probably caused a slight shift of the heart to the right. There was some question as to the exact nature of the left thoracic mass. Its sym-

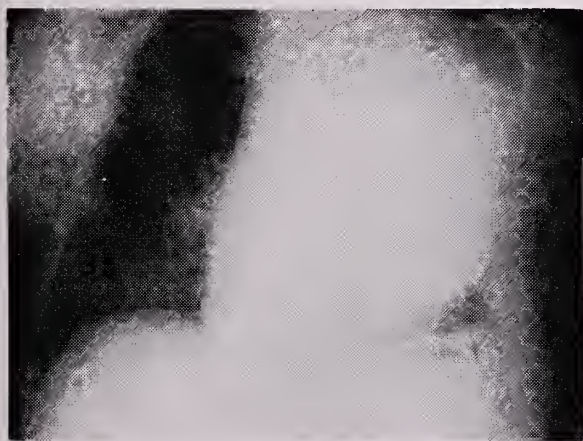


Figure 1

metry and shape suggested something other than a primary bronchogenic carcinoma, and the possibility of its representing a neurofibroma, chondroma, chondrosarcoma or a large fluid filled cyst was entertained.

During the few days of observation prior to surgery the patient had several spells of confused, uncooperative behavior during which he became belligerent and noisy and resisted all attempts to help him. During one of these spells his blood sugar was found to be 22 mg. percent and during another 28 mg. percent. On all occasions the behavior pattern was completely and promptly reversed to normal by intravenous administration of glucose.

A few days prior to the abdominal exploration an attempt was made to aspirate the "cyst" in the lung. The surgeon discovered that the "cyst" was hard and fibrous rather than cystic, and it was thereafter assumed that the thoracic mass represented a large fibroma or neurofibroma originating in the mediastinum.

On June 19, 1959, exploratory laparotomy was done. The remaining pancreatic fragment was carefully palpated and the bowel was palpated for aberrant pancreatic tissue and none was found. There was no abnormality in the remaining head of the pancreas. Because of poor toleration of the anesthetic and irregularity of the pulse, it was decided to terminate the procedure and to close the abdomen.

For 3 days following surgery the patient did satisfactorily. On the third day while sitting up to eat the patient apparently vomited, aspirated vomitus and suddenly expired. Postmortum examination was done. The principal finding at autopsy was a large tumor occupying the upper two-thirds of the left thoracic cavity. The tumor measured 22 x 20 x 12 cms. and weighed 2150 gms. On cut section of the tumor, large nodules varying from 3 to 6 cms. in diameter were seen. The cut surface of the tumor was solid, grey-white, and whorled and exuded serous yellow fluid. Microscopically the tumor showed interlacing and parallel bundles of cells with spindle shaped nuclei. (Figure 2) The tumor was rather cellular but there were many small cystic spaces. The tumor was classified initially as a neurofibroma of the left pleural cavity. Later, after restudy and consultation with the Armed Forces Institute of Pathology, it was reclassified as a "malignant spindle cell tumor of left pleural cavity, probably malignant fibrous mesothelioma, or so-called giant sarcoma of pleura."

Autopsy revealed no significant pathologic

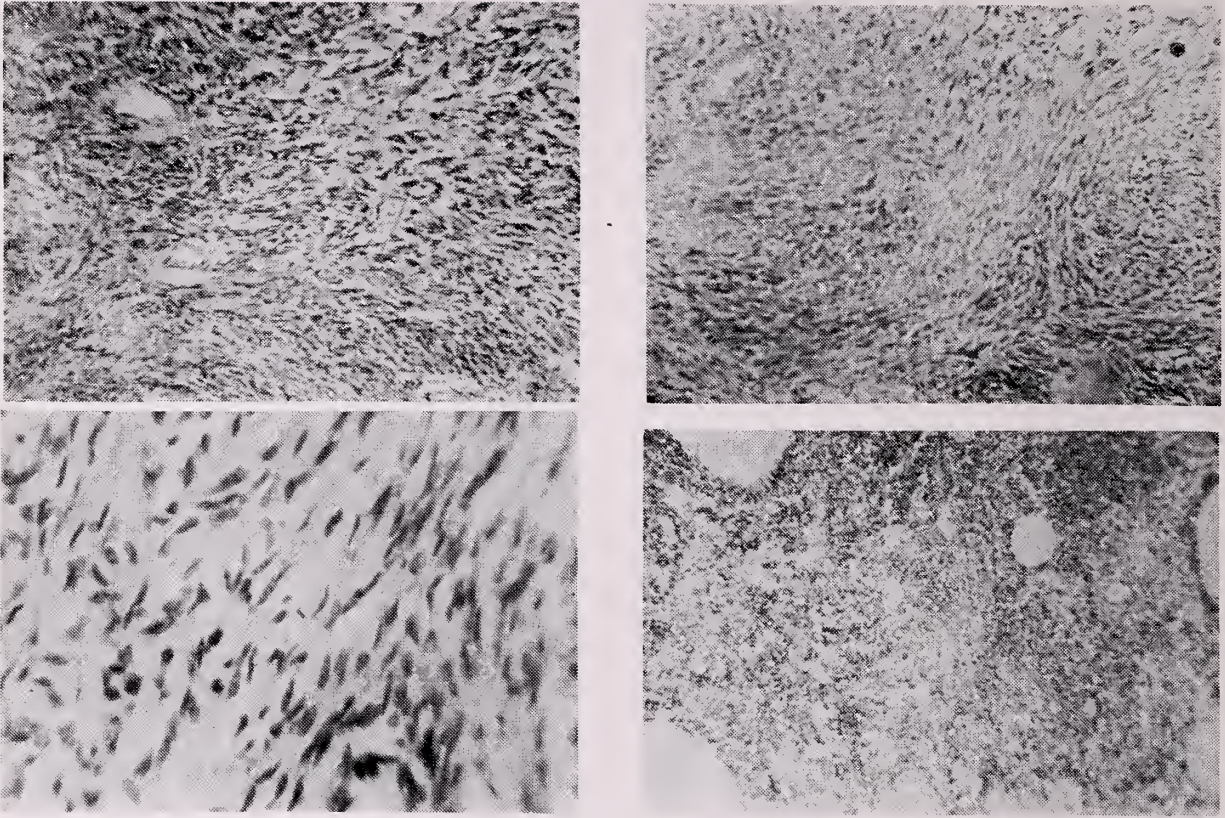


Figure 2

changes in the liver, thyroid, pituitary or adrenals. Multiple sections of the pancreas showed moderate fatty infiltration only. The acini were not remarkable and there was a normal distribution of normal appearing islet cells.

Review of the literature:

The syndrome herein described is decidedly rare. In one of the most recent reviews of the subject, Miller, Bollinger and associates¹⁷ review the reports of 15 such patients in the literature and add two of their own. Their review does not include that of Rossman¹⁶ who reported another case at about the same time. It is probable that other cases have appeared in the literature the last year that have not yet appeared in the indices and have therefore not been available for review. Frantz¹⁹ reviewed 27 cases of extra pancreatic tumors associated with hypoglycemia from the literature of the last 30 years in May 1960. If the presently reported case is added to the series of 27 cases reported by Frantz, the total number of cases of non-pancreatic tumors associated with hypoglycemia would amount to 28.

Possibly the first case of this type to be reported was that of Doege¹ reported in 1930. Doege's case is that of a 50 year old male who experienced cerebral symptoms similar to those described in many of the cases following and who recovered completely after the removal of a huge fibrosarcoma from the left thorax. This tumor measured 25 inches in its large circumference and 17 inches in its shorter circumference and its weight was 4½ pounds. The symptoms in this case were not proved to be due to hypoglycemia nor was hypoglycemia suspected by the attending physician. The cerebral symptoms were explained by displacement of the heart and interference with cerebral circulation. It is quite apparent, however, from the description of symptoms that Doege's case fits very well into the syndrome of hypoglycemia due to large nonpancreatic tumors.

In 1930, Anderson² reported a white male 33 years in age who experienced semi-consciousness and symptoms of cerebral dysfunction relieved promptly by intravenous glucose. The neurologic signs were highly suggestive of encephalitis. The patient died

in pulmonary edema and an autopsy disclosed a 400 gram tumor of the left adrenal gland which was difficult to classify by the pathologist. A diagnosis of an atypical carcinoma of the adrenal cortex seemed to be favored. In 1938 Lawrence³ reported the unusual occurrence of severe hypoglycemia apparently resulting from a carcinoma from the left adrenal cortex. The author points out that such occurrence is extremely rare because it was recognized that most adrenal cortical tumors even in the year in which this case was reported were more likely associated with hyperglycemia than hypoglycemia. Broster and Patterson⁴ in 1948 reported a 14 year old girl with virilism who experienced spells of deep stupor associated with blood sugars as low as 15 mg. per 100cc of blood. She had a large tumor in the left hypochondrium which upon autopsy was shown to be an adrenal carcinoma and which weighed nearly 6 pounds. It measured 22 cms. in main diameter.

Staffieri, Cames and Cid,⁵ have reported the case of a 25 year old male with recurring mental confusion, particularly in the early morning. Blood sugars under these circumstances were found to be as low as 30 mg. percent and the symptoms were promptly relieved by intravenous glucose. Physical exam disclosed a mass in the right flank which was removed. The tumor measured 20 x 9 x 11 cms. The cut surface of the tumor showed gross cavities. The tumor appeared to originate from the adrenal cortex on the right and was conveniently labelled, "Sarcomatous dysembryoplasia with cortico-adrenal differentiation." This tumor was apparently difficult to classify pathologically as so many of the tumors associated with this syndrome have been. This patient also had an associated goiter, gynecomastia and hepatosplenomegaly.

Rosenfeld⁶ reported 4 unusual cases of peritoneal pseudo-myxoma, two of which were accompanied by hypoglycemia. One patient was a 46 year old male who experienced severe hypoglycemic spells late in a 4 year clinical course of pseudo-myxoma peritonei. There was also some associated evidence of liver dysfunction. His second patient was a 51 year old male who experienced no symptoms recognized as hypoglycemic but in whom a routine blood sugar was as low as 35 mg. percent. In both of Rosenfeld's cases

there was reasonable question as to other mechanisms for hypoglycemia, particularly that of liver dysfunction and a sprue-like picture as shown by small bowel x-ray.

Stout⁷ has reported a 68 year old male who gradually developed disorientation and slurred speech and finally collapsed. A large mass was felt in the right upper quadrant of the abdomen and surgical exploration disclosed a retroperitoneal solitary fibrous mesothelioma apparently arising from the peritoneum. The tumor weighed 1168 grams and measured 14 x 16 x 9 cms. Cross examination of the cut surface of the tumor revealed areas of hemorrhage and necrosis. The author does not consider the possibility that the tumor might have caused hypoglycemia or that his symptoms were hypoglycemic in nature. It is probable, however, in the overall perspective of this group of cases, that this case constitutes an additional case of hypoglycemia due to large nonpancreatic tumors.

Skillern, McCormack and associates⁸ have reported two cases which they consider to be examples of "hyperinsulinism due to islet-cell tumor simulating sarcoma." In their first case the patient had experienced hypoglycemic attacks with the blood sugar ranging from 34 to 45 mg. percent for 4 months prior to surgery. There was no recurrence of tumor or symptoms 23 months after the removal of a neurofibrosarcoma or mesothelioma from the right thorax. In this instance the tumor, weighing 2440 grams and measuring 24 x 18 x 17 cms., was attached to the diaphragm and lower lobe of the right lung. Their second case was that of a 70 year old man with a one year history of hypoglycemic spells with blood sugars recorded at 27 and 25 mg. percent. There was no recurrence of tumor or hypoglycemia 10 months after the removal of a fibrosarcoma from the retroperitoneal region in the pancreatic area. The tumor weighed 4720 grams and measured 21 x 16 x 15 cms. Skillern, McCormack and associates hypothesized that the two tumors which they reported were "actually atypical functioning islet cell tumors of low grade malignancy masquerading as sarcoma-like neoplasms." No insulin assays were done but they believed that blue granules which were encountered in occasional round cells in the second case might represent beta cells from islet tissue.

Arkless⁹ has reported the coincidence of rhabdomyofibroma of the diaphragm, hypo-

glycemia and retroperitoneal sarcoma. In this case the probable cause and effect relationship between the retroperitoneal sarcoma and hypoglycemia was not recognized and the distinctly hypoglycemic episodes were classified as "idiopathic."

Silvis and Simon¹⁰ in 1956, reported a 23 year old male showing symptoms of cerebral dysfunction and a blood sugar of 35 mg. percent. After appropriate studies the patient underwent surgery and a retroperitoneal fibroma weighing 1200 grams was removed. There was no recurrence of tumor or hypoglycemic symptoms following surgery. Silvis and Simon refer to a case of Seckel reported in 1939 in which a 56 year old male with an 8 week history of episodes of unconsciousness, identified as hypoglycemic, was found on autopsy to have a massive fibroma superior to the right lobe of the liver.

A tumor of pelvic origin which was at first classified as a granulosa cell tumor of the ovary and which was later left unclassified was reported by Porter and Frantz¹¹ in 1956. In this instance a 45 year old female with a 6 month history of hypoglycemic spells recovered from the hypoglycemia for 2 years and 8 months following the removal of the tumor and post operative radiotherapy. Nearly 4 years after the surgery, however, her hypoglycemic spells recurred.

Holten¹² reported the case of a white female, age 41, who had surgical removal of a large retroperitoneal tumor that had eroded into the right colon causing hemorrhage. The tumor was twice the size of a fist and was classified as spindle-cell sarcoma. Five years later the patient was readmitted with hepatomegaly and spells of confusion which were identified as hypoglycemic. Liver function tests revealed only slight to moderate impairment. The histologic picture of the numerous liver metastases was the same histologically as the spindle-cell sarcoma originally removed.

Scholtz, Woolner and Priestly¹³ reported two cases of spontaneous hypoglycemia associated with fibrogenic tumors. The first was a 47 year old white male who on the basis of recurring attacks of hypoglycemia and associated symptoms was unsuccessfully explored for functioning islet cell tumor. Later a well differentiated fibrosarcoma, apparently arising

from the left kidney weighing 770 grams and measuring 10.5 x 10 x 8 cms., was removed with complete clinical recovery ensuing. Their second case was a 56 year old white male who was also explored unsuccessfully for a functioning islet cell tumor of the pancreas. Exploration, however, disclosed a football sized tumor in the right lobe of the liver which was classified as a poorly differentiated fibrosarcoma. The patient improved temporarily following surgery and radiotherapy but eventually died.

Nesbitt, Boswell and associates¹⁴ reported a 42 year old white male in whom surgical exploration disclosed a diffuse malignant mesothelioma covering most of the peritoneal surfaces in exudate-like manner. One month following the intra-peritoneal injection of radioactive gold the patient began to have spells of unconsciousness and profuse sweating identified as hypoglycemic and relieved by intravenous glucose. The patient eventually died. These authors comment on the fact that nearly all the tumors reported as being reported associated with hypoglycemia are probably of mesodermal origin. They suggest classifying them as "mesodermal tumors associated with hypoglycemia."

A fibrosarcoma, low grade and spindle-cell type, weighing 1370 grams, measuring 14 cms. in diameter and originating in the posterior base of the left lung has been reported by August and Hiatt.¹⁵ The tumor apparently had been present many months before the patient developed hypoglycemic symptoms. There was no recurrence of the tumor or hypoglycemia 11 months after surgical removal. A normal glucose tolerance curve was recorded on the nineteenth day post-operatively. In this case, considerable insulin activity was demonstrated in the tumor tissue.

A mediastinal neurofibrosarcoma causing hypoglycemia was reported by Rossman¹⁶ in 1959. The patient was a 51 year old white housewife who developed symptoms suggestive of cerebral thrombosis. During a convulsive seizure in the early morning hours a blood sugar was discovered to be 36 mg. percent. Chest x-ray showed a 15 cm. mass in the right lower posterior lung field. After careful deliberation it was decided to remove the thoracic tumor before exploring the pancreas. The removed tumor weighed 1600 grams and measured 19 x 18 x 15 cms. Re-

removal of the tumor apparently relieved all symptoms. The pathologists' report was neurofibrosarcoma, mediastinal.

In one of the most current and complete reviews of the subject available, Miller, Bollinger and associates¹⁷ discussed the syndrome, refer to previously reported cases, and report two additional cases. They point out that most of the tumors reported in the literature to be associated with hypoglycemia have been large, slow growing, and well encapsulated and have shown the microscopic characteristics of fibromas, mesotheliomas and sarcomas of various types. They report that in 10 of the cases previously reported, removal of the tumor had effected relief of the symptoms. In one of their cases a 73 year old retired farmer experienced hypoglycemic episodes in association with pelvic tumor weighing 400 grams., measuring 13 x 18 cms., and which appeared to originate in the pelvis near the prostate. Exact pathologic classification was difficult and fibrous mesothelioma, leiomyosarcoma and neurogenic sarcoma were all considered. It was finally classified as a malignant mesodermal tumor, type undetermined. The second case was that of a 59 year old white female in whom distinctly hypoglycemic symptoms and seizures were associated with tumor arising from the central tendon of the right diaphragm. The tumor weighed 1080 grams, measured 15.5 cms. in diameter and was classified as a solitary fibrous mesothelioma.

Discussion of Mechanism of Action:

The exact mechanism in which large non-pancreatic tumors with disparate characteristics cause hypoglycemia is not known. Except for the fact that in a number of these cases the symptoms of hypoglycemia have been relieved by removal of the tumor, it would probably be better to refer to the **association** of the tumor with hypoglycemia rather than imply that one causes the other. The cause and the effect relationship, however, in some of the cases appears to have been established. Conn and Seltzer¹⁸ in commenting on a series of these cases, said "in view of the great size of the neoplasms it would seem more likely that they are consuming selectively very large amounts of glucose." Skillern, McCormack and associates,⁸ as noted above, believe that these cases are atypical functioning islet cell

tumors which have only a superficial resemblance to sarcoma-like neoplasms. August and Hiatt¹⁵ discovered considerable insulin like activity in the excised tumor tissue in their case. The mediastinal neurofibrosarcoma reported by Rossman¹⁶ arose directly from the sympathetic trunk and introduces the possibility of interference with the nerve supply to the adrenal cortices and medulla as a cause. Scholtz, Woolner and associates¹³ suggest that the tumors release an insulinase inhibitor.

From a gross pathologic point of view most of these tumors have been large, slow growing, well encapsulated and have been frequently mediastinal or retroperitoneal. Many of them have shown areas of necrosis, cavitation and cystic degeneration suggesting that these features might provide an important clue as to the exact mechanism by which they produce hypoglycemia. One wonders, in view of the difficulties that these cases have presented to the pathologist, whether all or nearly all of them might be more accurately classified as mesotheliomas. If such be the case, it is logical to speculate further on the question of whether mesothelial tissue either has unusually high glucose requirements or whether it releases an insulin-like hormone. Rosenfeld's case of pseudomyxoma, the patient reported by Nesbitt, Boswell and associates, and that of Holten, all of which exhibited this syndrome of hypoglycemia without the presence of a large single discrete mass, suggests that a physiologic peculiarity of the tissue involved might be more important than the physical and gross characteristics of the tumor in the underlying pathophysiology.

Microscopically they have been a pathologists' nightmare as attested by the difficulties they have presented in precise classification. Many have exhibited whorls suggesting nervous tissue origin. Other confusing and overlapping terms that have been used are fibroma, fibrosarcoma, fibrosarcoma myxomatodes, leiomyosarcoma, sarcoma, sarcoma-like tumor, giant cell tumor of the pleura, endothelioma, endotheliosarcoma and mesothelioma. It is probable that many of these refer to essentially the same condition.

Summary and conclusion:

A case of a 72 year old white male with definite spells of cerebral dysfunction asso-

ciated with extremely low blood sugar levels in whom a resection of four fifths of the pancreas did not effect any relief has been presented. A large mesothelioma of the left thorax was discovered clinically but its relationship to the hypoglycemic episodes was not appreciated. Autopsy disclosed no disease in the pituitary, thyroid, adrenals, liver or pancreas and it is probable that this case should be classified with the small but slowly growing series of patients being reported with severe hypoglycemia due to nonpancreatic tumors often of mesothelial origin.

Gratitude is expressed to Dr. Wayne Geib and Dr. John Elston, for pathologic studies and preparation of photomicrographs.

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HELPING HAND CLUB FUND

Are you familiar with The Helping Hand Club Fund?

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Harold M. Johnson
Associate Editor
and Administrator of
The Helping Hand Club
55 East 10th St.
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Scientific

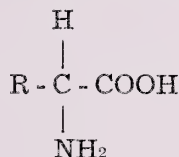
PAPER

*IDENTIFICATION OF HEMOGLOBIN BY ELECTROPHORESIS

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School of Medicine, State
University of South Dakota,
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All proteins contain the elements C, H, O, N, and a few S. The hydrolysis of proteins by boiling with acid or alkali, or by the action of certain proteolytic enzymes yields a mixture of simpler substances, the amino acids. These amino acids are primary amino acids, *i. e.*, the carboxyl and amino groups are attached to the same carbon atom as follows:

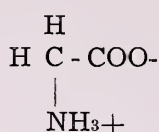


The various alpha amino acids possess different R groups attached to the alpha-carbon. The usual classification of amino acids depends on the number of acidic and basic groups present. Thus, the neutral amino acids contain one amino and one carboxyl group. The acidic amino acids have an excess of carboxyl over amino groups, while the basic acids possess an excess of amino, or basic groups.

Amino acids are ampholytes, *i.e.*, they behave both as weak acids and as weak bases since they each contain at least one carboxyl group and one amino group. An amino acid

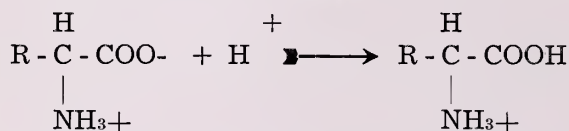
* Presented at the Workshop: Hemoglobin Determinations, School of Medicine, Vermillion, South Dakota, Sept. 8, 1960.

like glycine gives dipolar ions, also termed zwitterions, in which both acidic and basic groups are ionized.

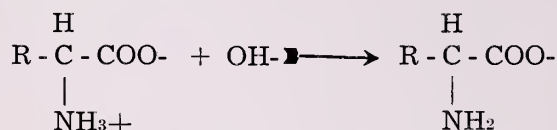


However, the molecule is electrically neutral, since the number of positive charges is equal to the number of negative charges. In this condition, the molecule is termed isoelectric. The pH at which a dipolar ion **does not** migrate in an electrical field, in other words is electrically neutral, is called the isoelectric point.

Addition of H^+ to the isoelectric molecule, produces a change in charge, since the molecules acquire a net $+$ charge.



Addition of a base to a dipolar ion removes a proton, leaving the molecule with a net negative charge.



Like amino acids, proteins are ampholytes, thus they migrate in an electric field and the direction of migration will be determined by the net charge on the molecule. The net charge is influenced by pH, and for each protein there is a pH value at which it will not move in an electric field. This pH value is called the isoelectric point of the protein. At pH values acid to the isoelectric point, the protein will have a net $+$ charge, and as a cation, will migrate to the negative pole (cathode). Correspondingly, at pH values alkaline to the isoelectric point, the protein will possess a net negative charge as an **anion** and will migrate to the positive pole (anode). The isoelectric point of a given protein is a constant and aids in the characterization of these substances.

ELECTROPHORESIS

We have already mentioned that proteins migrate in an electric field except at the pH of the isoelectric point. This was discovered many years ago, 1899, and has been widely

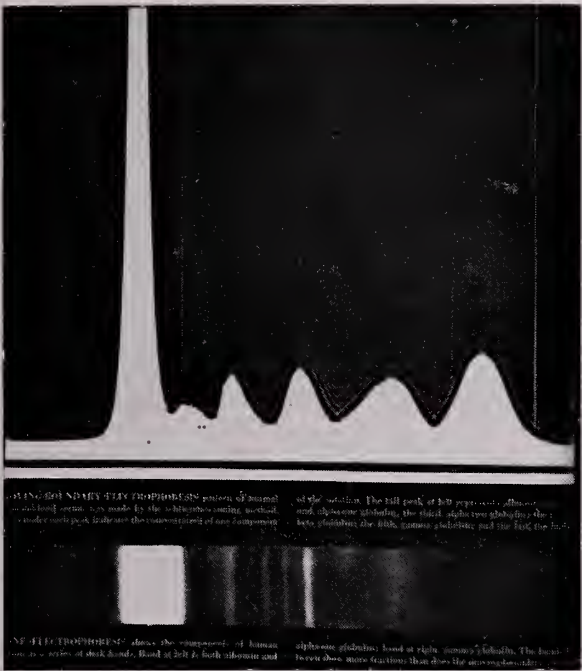
employed in the study of proteins. The rate of migration of a molecule in an electric field is largely dependent on the net charge. Hence, the rate of electrophoretic migration will depend on the pH in the same manner as does the degree of ionization. Although shape and size of the molecule influence the absolute rate of migration, the major factor is the net charge. Since proteins differ markedly in their isoelectric points, they thus differ markedly in electrophoretic mobility at any given pH value.

In principle, the technique of electrophoresis is simple. A protein solution containing a buffer at a definite pH is placed at the bottom of a U tube. Immediately above the protein solution, a layer of buffer solution is introduced without disturbing the boundary created between the protein solution and buffer. Electrodes are then inserted in the buffer solution. The whole U tube is then immersed in a bath maintained at a constant temperature near 0°C in order to minimize convection currents which may arise from the heat generated and also to prevent heat coagulation of sensitive proteins.

The rate of migration of the protein in the electric field is measured by observing the movement of the boundary as a function of time. Migration of colored proteins, such as hemoglobin, is readily observed. Since most proteins are colorless, optical systems have been devised which permit visualization and measurement of variations in refractive index in the electrophoresis cell. These differences in refractive index of the various portions of the protein solution reflect alterations in concentration, i.e., refractive index gradients provide a measure of the distribution and quantity of the solute, in this case, protein.

Figure I (top) shows the electrophoretic pattern of normal human serum using the moving boundary method. The area under each peak indicates the concentration of one component. With pure substances, only a single peak will be obtained while multiple peaks indicate mixtures.

In addition to the electrophoresis of charged compounds in solution, the procedure may also be performed by using a porous, inert medium such as starch, silica gel, or moistened filter paper. The mixture of substances in solution is usually applied as a discrete



spot or zone, and a complete separation of components can be obtained. This process is known as zone electrophoresis, and is useful both for analysis and for the isolation of materials. Figure I (bottom) demonstrates zone electrophoresis. The band at the left is albumin and alpha globulin, while the band at right is gamma globulin.

ABNORMALITIES OF HEMOGLOBIN

Interest in the existence of abnormalities related to hemoglobin has been slow to develop but has finally reached a high level. Van den Bergh in 1905 called attention to the presence of abnormal pigments in the blood when he introduced spectroscopy in clinical work. All of the early investigations, however, were concerned with the heme moiety of the hemoglobin molecule. The observations of Pauling *et al.*¹ have now opened up still another avenue of research, namely, that concerned with the globin or protein portion of hemoglobin, with the result that an entirely new group of diseases has been discovered. Most of these discoveries were made through the aid of electrophoresis, but not entirely so.

Within a single species, until recently the best characterized variants of hemoglobin were adult and fetal forms. About 100 years ago, Von Korber² demonstrated that hemoglobin solutions prepared from cord blood erythrocytes were resistant to the destructive effects

of NaOH whereas hemoglobin preparations from normal adults were rapidly destroyed under the same conditions. Since then it has also been shown that fetal Hb differs from the adult form in crystal form, solubility, and amino acid composition. Fetal and adult hemoglobins have the same molecular weight and prosthetic group, *i.e.* the heme group. The difference therefore lies in the globin, or protein portion.

It has been noted that at 20 weeks pregnancy, about 94% of the hemoglobin of the fetus is of the fetal type, called Hb F and at birth about 55-85%. There is a rapid decrease during the first year of life with the result that there is less than 15% and as often as little as 1% at the end of this time. Traces are present up to the 3rd or 4th year of age, in fact, the mechanism for fetal hemoglobin formation may never be totally lost. In certain congenital disorders, *i.e.*, thalassemia and sickle cell disease, the production of fetal hemoglobin appears to be reactivated.

Many procedures are available for the quantitative estimation of the fetal pigment based upon its resistance to alkali denaturation. One method is to treat the hemoglobin mixture with N/12 KOH for one minute. In this time interval, the normal adult hemoglobin is denatured while the fetal hemoglobin remains resistant. 50% sat. (NH₄)₂SO₄ is then added to precipitate the denatured normal hemoglobin, the mixture is filtered, and the per cent of undenatured Hb F is determined in the filtrate.

From the biochemical standpoint, one of the most interesting of the hemolytic anemias is characterized by the appearance of sickle cells, *i.e.*, the normal biconcave disk structure of the erythrocyte alters to a crescent shape when the oxy-hemoglobin of the cell is reduced to hemoglobin as a result of exposure to lowered oxygen tension. The incidence of sickle cell anemia is about 0.2% among the Negro population of this country. About 8% of this population group have erythrocytes which sickle although they are not anemic. They are said to have "sickle cell trait."

In the initial studies, Pauling *et al.*¹ found that all the hemoglobin obtained from erythrocytes which showed sickling, designated as Hb S, differed from Hb A (normal) in the globin portion. For example, he showed that the isoelectric point of Hb S is about 0.2 pH

higher than that of Hb A. This has permitted the electrophoretic separation of these two hemoglobins. Thus, Hb A migrates more rapidly at an alkaline pH and Hb S more rapidly at an acid pH. At pH 6.9, the two forms migrate in opposite directions since this pH is midway between the isoelectric points of the two Hbs. In addition, Hb S in its reduced form, is only 14% as soluble as Hb A. Thus sickling occurs in the capillaries as the Hb S crystallizes from solution within the erythrocyte thereby distorting the cell.

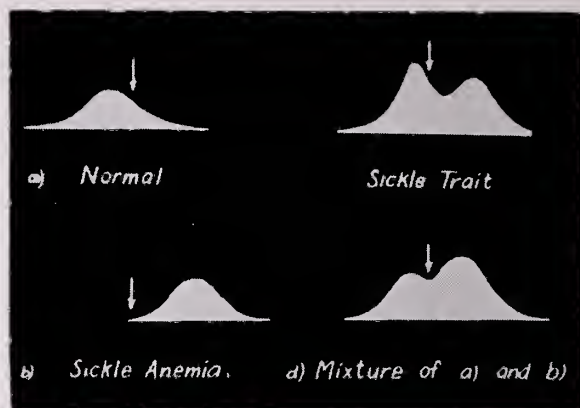
Finally, Pauling *et al.*¹ showed that the erythrocyte of persons with sickle cell anemia contain no Hb A, although occasionally fetal Hb F is present in these cells. However, in erythrocytes from individuals who are not anemic, but who show the sickling trait, there is approximately 40% Hb S, and 60% Hb A. These differences are illustrated in Figure II.

The structural basis for the difference in electrophoretic mobility among hemoglobins

Hb A:	+						-	-	+
	His.	Val.	Leu.	Leu.	Thr.	Pro.	Glu.	Glu.	Lys.
	↑								↑
Hb S:	+						-	-	+
	His.	Val.	Leu.	Leu.	Thr.	Pro.	Val.	Glu.	Lys.
	↑								↑

A and S has been elucidated by Ingram³ hydrolysing the respective globins with trypsin, which acts only at the lysine and arginine bonds. The resulting peptides were then separated. Comparisons of the digests of hemoglobins A and S showed that one peptide was different in Hb A as compared to Hb S. All other peptides had identical electrophoretic behavior. Determination of the sequence of amino acid residues in the peptides were then made and are shown in Figure III.

Arrows indicate the position of action by trypsin. The underlined residues show those which differ in the two proteins. The + and - signs indicate the charges which are present on this sequence in the intact protein. It can be seen that a α -charged glutamyl residue of hemoglobin A has been replaced by a neu-



tral valyl residue in Hb S. These findings explain the differences in electrophoretic mobility and illustrate the remarkable sensitivity of the method in distinguishing the two proteins. In addition, it is surprising how much the solubility of the proteins is affected by these small changes in composition. In other words, the mere substitution of one amino acid for another, i.e. valine for glutamic acid, in a long chain of perhaps 6-700 amino acids which make up the globin portion, has completely altered the physical and chemical properties of the molecule.

The establishment of a molecular basis for sickle cell anemia led to the electrophoretic examination of Hb from normal individuals and those with various blood dyscrasias. In addition to hemoglobin A, S, and F, at least 7 other hemoglobins designated C to I, have been distinguished. Some of their properties are shown in Figure IV.^{4, 5}

Although other methods have been introduced in recent years for the separation of hemoglobin components, electrophoretic analysis remains the most effective and widely used technique. The moving boundary method, which was used exclusively in the early studies of the abnormal forms of human hemoglobin, retains its advantage for certain purposes, i.e., determination of absolute mobilities and isoelectric points. However, zone electrophoresis is more readily available and is better adapted for screening large populations.

TABLE 10. SOME PROPERTIES OF HUMAN HEMOGLOBINS ¹⁰⁰⁻¹⁰⁹				
Hemoglobin Type	Isoschleric Point*	Electrophoretic Mobility at pH 8.5** × 10 ⁻⁴	Anodic Mobility Relation to Hb A by Paper Electrophoresis at pH 8.6	Solubility in gm./100 ml. water***
Normal A	6.87	2.4		1.29-1.65
Total F	6.98	2.4	Slightly slower than A	1.95-2.55
Sickle cell S	7.00	2.0	Slower than A	0.14-0.44
Hb C	7.30	3.2	Slower than S and D	1.80-2.07 (with A)
Hb D	7.09	2.0	Same as S	1.34 (with A)
Hb E	7.09	Between 2.3 and 2.0	Between C and S	Same as A
Hb G	7.08	Between 2.3 and 2.0	Between S and A	Slightly lower than A
Hb H			Faster than A	
Hb I	6.87	1.7	Faster than A	1.29-1.65
Dehydrated				2.30

In conclusion, it should be mentioned that all of the abnormal forms of human hemoglobin are electrophoretically abnormal. There is as yet no good physical method for the detection of slight variations that do not effect the net charge of a protein. Therefore, any alteration such as the transposition of two similar uncharged amino acid residues

within a polypeptide chain can only be detected by a complete sequential analysis of the amino acids present. Thus, until less laborious procedures for the detection of abnormal molecules with normal net charge are developed, experimental studies on the structure of abnormal Hb will depend on the use of electrophoresis.

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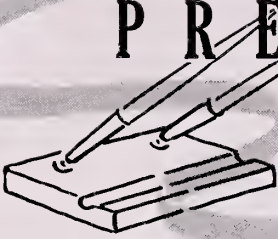
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P R E S I D E N T ' S P A G E



Dear Friends,

One hears a great deal now about the difficulty medical schools have in interesting top-flight students to choose medicine as a career. In the past a greater percentage of top undergraduate students have been interested in medicine than is now the case. One important factor is the financial outlay required. We in the profession must take steps to help this situation.

In South Dakota we have excellent opportunities to help along these lines. I refer to the two most effective methods of aiding medical schools which come to mind; namely, the American Medical Education Foundation and our own South Dakota Medical School Endowment Fund.

Contributions made to A.M.E.F. can be earmarked for a specific school or can be sent to the National Headquarters, where funds are distributed on a per student basis. Funds received by medical schools from A.M.E.F. are used as the administration of the schools deems appropriate, with no strings attached.

Money sent to the S. D. Endowment Fund is presently used primarily as a student loan fund, and eventually will be an endowment fund for the Medical School.

May I take this opportunity to encourage each member of the Association to contribute generously to **both** of these very important and worthy professional funds.

Very sincerely yours,
C. Rodney Stoltz, M.D.
President

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NOBEL AWARD WINNERS IN PHYSIOLOGY AND MEDICINE

According to **Science** for November 4, 1960, p. 1300, Sir McFarlane Burnet, Professor of Experimental Medicine at Melbourne University in Australia and Peter Brian Medawar, Professor of Zoology at University College, London, were joint recipients at the 1960 Nobel Prize for Physiology and Medicine.

They were honored for the discovery of acquired immunological tolerance by showing that under certain conditions a body can be induced to tolerate transplantation of foreign tissue. A theory was formulated in 1949 by Burnet in which he held that under certain conditions a body does not inherit the capacity to "recognize" tissues of its own strain but that it gradually develops this ability during the embryonic period. He predicted that if foreign tissues were introduced during this formative stage, the body would later tolerate them if they were reintroduced.

This theory of acquired tolerance was proved valid by Medawar and his coworkers who published a report in 1953. Mouse embryos were inoculated while in the womb with tissues from mice of a different breed. When similar tissue was grafted to the an-

imals after birth, the operations were successful. According to an article entitled "Skin Transplants" by P. W. Medawar, found in the **Scientific American** for April, 1957, the spleen cells of brown mice have been injected into embryonic white mice and, as adults, these white mice tolerated skin grafts from brown mice. The experiment, among others, shows that the tolerance of the homograft is due to absence of a specific reactivity in the host, rather than to any change in the properties of the grafted tissue. The antigens are present in the graft, but the animal cannot react to them. The phenomenon of tolerance of antigens cannot yet be explained by any chemical theory of the immunological reaction.

Application of Theory to Kidney Transplantation

Since the confirmation of Burnet's theory, it has been found that X-rays and cortisone can overcome the immunity barrier to foreign tissue in an adult animal that has not received prenatal treatment. This method was used recently at the Harvard Medical School in a successful kidney transplant from one brother to another. John P. Merrill, Assistant Professor of Medicine of Harvard Medical School, in his article on "Transplantation of

the Kidney," found in **Scientific American**, v. 201, 1959, p. 57, gives a brief summary of kidney transplantation. "To date it has been found usually impossible to transplant a whole organ such as a kidney or even to graft skin successfully from one person to another. The tissue of each individual has its own chemical identity. Upon exposure to foreign tissue, it rallies the most powerful defensive mechanism it possesses, the immune response, to destroy and reject the foreign tissue. The successful achievement of true 'homografts' thus remains for the present a frontier of experimental surgery and of research of biochemistry and immunology." E. Ullmann of Vienna, at the beginning of the century made the first attempt of removing a kidney from one animal and restoring it to the same animal. In 1908, Alexis Carrel transplanted kidneys in both dogs and cats. Unsuccessful attempts to transplant a kidney in man were made in Russia in 1930 and in this country in 1950. Since 1954, a group at Harvard Medical School has been working with the kidney. One published account in **Annals of Surgery**, v. 148, 1958, p. 343-59 by J. E. Murray, et al, describes "Kidney Transplantation Between Seven Pairs of Identical Twins." In summary, the total experience at the Peter Brent Brigham Hospital consists of twenty-three patients with kidney transplants. Of these, sixteen have been from unrelated donors; none survived permanently, but one lived five and one half months and four others had measurable function. Of fifteen twins, seven had transplants, and of these, six have had return of normal functions clinically, chemically and by X-ray. One of these patients died four months after transplantation, when the transplanted kidney became involved with the original disease. One other, still living, had signs and symptoms suggestive of active disease of transplant. Four others are living and well, the longest three and one half years after transplantation. One recipient successfully completed a normal pregnancy one and one half years after transplantation.

The Harvard group has recently been successful in a kidney transplant from one unidentical twin to another. A report of this is made in the **New England Journal of Medicine** by John Merrill, et al, v. 262, 1960, p. 1251, in an article entitled "Successful Homotransplantation of the Kidney Between Non-

Identical Twins." The transplant took place after whole-body irradiation without infusion of bone marrow. Skin transplanted from donor to recipient was rejected eight months after grafting. Histologic evidence of beginning rejection of the renal homograft was obtained by biopsy eight months post-operatively at a time when urine contained erythrocytes and protein. After a second course of low protracted low-dose irradiation and adrenocorticoid therapy, urinary abnormalities disappeared. Renal function was normal and urine was protein-free fourteen months after the operation. Partial tolerance for a renal homograft has been produced and this tolerance is consistent with normal renal function and clinical well-being.

Dr. Merrill's article in the **Scientific American**, v. 201, 1959, describes the transplanting of the normal kidney from the unidentical twin to the hollow of the brother's pelvis inside the abdominal cavity where its surroundings resembled the normal habitat. The kidney's artery was connected to a branch of the iliac artery and its vein to a vein in the pelvic cavity through which blood flows from one leg. Within minutes the kidney became a healthy pink and urine began to drip from the end of the ureter which was then implanted directly into the bladder so the urine would drain normally. The kidney gradually improved its function, uremia cleared up, appetite and mental processes improved and blood pressure dropped. Six weeks later, in two separate operations, the diseased kidneys were removed.

Esther Howard

Medical Librarian

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**REPORT ON ACTION OF THE HOUSE OF DELEGATES
- AMERICAN MEDICAL ASSOCIATION
Fourteenth Clinical Meeting
November 28—December 1
Washington, D. C.**

A scholarship and loan program for medical students, the status of foreign medical graduates, an A.M.A. membership dues increase, the expansion of voluntary health insurance, health care for the aged and new developments in polio vaccine were among the major subjects acted upon at the American Medical Association's Fourteenth Clinical Meeting held in Washington, D. C., November 28-December 1.

Named as 1960 General Practitioner of the Year was 44 year-old Dr. James T. Cook of Marianna, Florida, who was selected for his dedication to both medical practice and service to the community. Dr. Cook is the 14th recipient of the award.

Speaking at the Monday opening session, Dr. E. Vincent Askey of Los Angeles, AMA President, called upon the delegates to support not only existing AMA programs but also expansion of new programs necessary to meet the challenges of society. Dr. Askey assured the new administration in Washington of cooperation whenever and wherever possible but emphasized that the AMA will not change its policies merely for the sake of conformity.

Total registration reached 8,170, made up of 3,940 physicians and 4,239 guests.

Scholarship and Loan Program

The House of Delegates approved a scholarship and loan program proposed by the Special Study Committee of the Council on Medical Education and Hospitals, and also urged that there shall be local participation in the program at the state and county level. In commenting on the two-part program, the House approved the following statement by the reference committee:

"This proposed program will provide concrete evidence of the American Medical Association's sincere desire to attract increasing numbers of well qualified young people to enlarge the ranks of our profession. Your reference committee recognizes that the pro-

gram is wisely designed to allow for its enlargement through the support of individual physicians and other groups. Your reference committee was impressed with the enthusiastic support of this proposal indicated during the course of the discussion. There was indicated a desire that in the final formulation of the administrative detail of this program, provision be made for widespread participation by individual physicians as well as county and state medical societies. The program will clearly assist in securing highly talented individuals whose ability and leadership in all areas of medicine will be fostered and at the same time will bring needed financial assistance on a broad basis to medical students under a system in keeping with this Association's belief in individual responsibility."

Foreign Medical School Graduates

Meeting the problem of foreign medical graduates, the House of Delegates adopted a report which included the following statement:

"In order that those foreign physicians who have not yet been certified by the Educational Council for Foreign Medical Graduates might be given further opportunity to enhance their medical education, hospitals would be encouraged to develop special educational programs. Such programs must be of educational worth to the foreign graduate and must divorce him from any responsibility for patient care. Foreign physicians may participate in these programs until June 30, 1961, with approval of the Department of State so that their exchange visa will not be withdrawn before that time. This will also allow the non-certified foreign physician the opportunity to take the April, 1961, Educational Council for Foreign Medical Graduates examination."

A.M.A. Dues Increase

The House approved a Board of Trustee report which announced that a dues increase

would be recommended at the annual meeting in June 1961. The report indicated that the amount would be not less than \$10 and not more than \$25 to be effective January 1, 1962. The Reference Committee asked the Board to consider an increase in the annual dues of \$20.00, to be implemented over a period of two years: \$10.00 on January 1, 1962, and \$10.00 additional on January 1, 1963.

The House suggested that these funds be used to inaugurate or expand a number of programs including:

1. Financial assistance to medical students.
2. Continuing education for practicing physicians.
3. Health advice to the lay public.
4. Medical research.
5. The expansion by the Communications Division of its program of faithfully portraying the image of the American Medical Association.

It is important, the House emphasized, that the Board of Trustees report recommending a dues increase be transmitted in essence to the grass roots level.

Voluntary Health Insurance

In place of a Board of Trustees report and three resolutions, the House adopted the following substitute resolutions:

"Whereas, It has been widely recognized that voluntary health insurance is the primary alternative to a compulsory governmental program; and

"Whereas, The public has shown its confidence in this voluntary system; and

"Whereas, Current social, political and economic developments compel a new and revitalized effort to make voluntary health insurance successful; and

"Whereas, the American Medical Association has consistently pledged itself to make available the highest type of medical care; therefore be it

"Resolved, that the House of Delegates direct the Board of Trustees and the Council on Medical Service to assume immediately the leadership in consolidating the efforts of the American Medical Association with those of the National Association of Blue Shield Plans, the American Hospital Association and the Blue Cross Association into maximum development of the voluntary, non-profit prepayment concept to provide health care for the American people; and be it further

"Resolved, that similar leadership be undertaken to coordinate the efforts of private insurance carriers through conferences with their national organizations; and be it further

"Resolved, That, where feasible, efforts be made to cooperate with representatives of other types of medical care plans, other professional groups, and representatives of industry, labor and the public at large."

Health Care for the Aged

The House reaffirmed the Association's support of the Kerr-Mills Bill, which was passed last summer, and its opposition to any legislation involving the use of the OASDI mechanism for medical aid to the aged. The delegates also urged all state and local medical societies to cooperate with the appropriate state officials and provide leadership in implementing the provisions of the Kerr-Mills Bill.

In connection with health care for the aged, the House suggested further experimentation in home care programs, homemaker services and visiting nurse services. The delegates also recommended an increased emphasis at all levels of medical education on the new challenges being presented to physicians in the health care of older persons.

Polio Vaccine

The House agreed with a Board of Trustees report which said:

"In view of the fact that oral polio vaccine will not be generally available in sufficient quantity in 1961 for any large scale immunizing effort, the Board of Trustees of the AMA strongly recommends that the medical profession encourage the widest possible use of the Salk vaccine for the prevention of poliomyelitis. The Salk vaccine has been proved to be effective and since there are still many segments of the population not immunized against poliomyelitis every effort should be made to encourage the general public to take advantage of the Salk vaccine without delay."

The Board report was amended to suggest that a proper committee be established by the AMA to study the problems involved in administration of the new oral polio vaccine and to establish guides for physicians to follow when they are approached by various groups and asked for their support in administering oral polio vaccine.

Miscellaneous Actions

In considering a wide variety of resolutions and annual and supplementary reports, the House also:

Approved continuing study and periodic re-evaluation of the trend toward locating **physician's offices** in or adjacent to hospitals;

Directed the Committee on Medical Care for Industrial Workers to carry out its duties as previously instructed and to prepare guides for physician relationships with **medical care plans** in conformity with the clear policies already laid down by the House of Delegates;

Approved a set of guides relating to drug expenditures for **welfare recipients**;

Asked the Board of Trustees to study the question of blood replacement responsibility and also the matter of establishing health insurance fee schedules for **surgical assistants**;

Urged the Board to make every effort to reduce the number of physicians who are non-dues-paying members and approved a three-year study report on the relationships of **physicians not-in-private-practice** to organized medicine;

Requested the Board to present a completed **retirement** and **disability** insurance program for AMA members at the June, 1961, meeting, and

Agreed that the **General Practitioner of the Year** Award should be continued as at present.

F. J. L. Blasingame, M.D.
Executive Vice President
American Medical Association

Monthly MEND Lecture

Sacred Heart Hospital

Yankton, South Dakota

Speaker: H. W. McFadden, Jr., M.D.

Chairman

Department of Microbiology

The University of Nebraska

Omaha, Nebraska

Topic: January 18, 1961 — "The Relationship of Antibiotics and Chemotherapy to Bacteria, Basic Science and Clinical Considerations" I

January 19, 1961 — "The Relationship of Antibiotics and Chemotherapy to Viruses, Basic Science and Clinical Considerations" II

Time: January 18, 1961 — 8:00 P.M.

January 19, 1961 — 8:00 A.M.

S. D. NATIONAL FOUNDATION

The state of South Dakota has been the principal beneficiary in the allocation of March of Dimes funds raised in the state over the past 23 years, it was disclosed today in a financial summary prepared by The National Foundation.

More than 73 cents of every dollar from South Dakota's March of Dimes has been put to use in aiding the state's disease victims. Of the remaining 27 per cent accruing to the national headquarters, a considerable amount also has come back to South Dakota in expenditures for vaccine trials, shipments of polio vaccine, scholarships or fellowships to South Dakota residents, and in other nationwide services conducted by The National Foundation.

The summary covers the period since the first March of Dimes was held in January, 1938, and compares the net total of funds raised in the state with amounts made available to South Dakota through September 30, 1960.

In this period, South Dakota chapters of the March of Dimes organization raised a net total of \$3,132,190.27 at an average fund-raising cost of about 8 percent. Of this amount, \$2,284,100.75 has been available to the county chapters in carrying out their extensive patient aid programs, including advances of \$1,027,335.50 from the national office to meet local emergency situations.

Over and above the 73 per cent used by county chapters in the state, The National Foundation financed field trials of the Salk vaccine in South Dakota at a cost of \$9,590.76. In addition, the national office has sent into the state \$11,275.50 worth of Salk vaccine in support of its polio prevention programs. The scientific research program which has developed polio vaccines was financed by the national headquarters' share of contributions.

Two years ago, the National Foundation for Infantile Paralysis changed its name to The National Foundation in expanding its areas of interest beyond polio to include birth defects and arthritis, using the scientific knowledge and experience gained in the fight against polio.

The New March of Dimes takes place throughout the month of January.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

We physicians are the ones who are used as examples and measures of public opinion of the value of our services to Society. Let us not lose sight of this truism.

YANKTON DISTRICT HEARS BEHAN

The Yankton District Medical Society met on November 3, at Yankton State Hospital, and heard **Dr. Lawrence Behan**, superintendent of the hospital, spell out the operational procedures; accomplishments, and aims of the administration of the hospital. In the presentation, he pictured the private practitioner as a key figure in the ideal program of hospital care and treatment for mental cases. **Dr. George Lysloff** also participated in the program.

HAND SURGERY SESSION MARCH 6-11

A five-day full-time course on Surgery of the Hand will be offered by the New York University Medical Center from March 6-11, 1961, under the direction of William T. Medl, FACS, and Thomas D. Rees, FACS. The course is designated mainly for general, orthopedic, plastic and industrial surgeons.

The sessions will consist of practical demonstrations, lectures and panel discussions by members of the New York University faculty and a visiting faculty of eminent specialists in surgery of the hand. All facets of modern hand surgery, including anatomy, physiology, diagnosis, surgical techniques and management of hand lesions will be covered.

The guest faculty will in-

clude: Robert A. Chase, Yale University School of Medicine; Martin A. Entin, McGill University Faculty of Medicine; Jerome Gelb, Kessler Institute; J. William Littler, Columbia University College of Physicians and Surgeons; Erle A. Peacock, Jr., University of North Carolina School of Medicine; Lee Ramsey Straub and T. Campbell Thompson, Cornell University Medical College; Dr. William C. Trier, MC, USN, Philadelphia Naval Hospital; and William L. White, University of Pittsburgh School of Medicine.

The class is limited to forty participants and the tuition is \$125. For applications communicate with the office of the Associate Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.

7th DISTRICT ELECTS REAGAN

Paul Reagan, M.D., Sioux Falls, was elected president of the Seventh District Medical Society at its annual business session in Sioux Falls on December 6th. Others elected were T. A. Angelos, M.D., Canton, Vice-President; A. K. Myrabo, M.D., Sioux Falls, Secretary; and D. L. Ensberg, M.D., Sioux Falls, Treasurer.

Delegates to the State Association are Drs. Robert Giebink, John Donahoe, John McGreevy, G. M. Jameson and A. K. Myrabo. Alternates are Drs. S. M. Brzica, E. T. Lietzke, Robert Nelson, C. A. Stern and O. P. Erickson.

Dr. Frank Krusen, of the Sister Kenny Foundation spoke on the activities of that organization.

The group authorized the Board of Directors to hold a special meeting December 10th to discuss indigent care problems.

COURSES AT U OF CHICAGO

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Bronchoesophagology from March 25, 1961, under the direction of Paul H. Holinger, M.D.

Interested registrants will please write directly to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

PEDIATRIC COURSE SET AT U OF MINN.

A continuation course in pediatrics will be given at the University of Minnesota from February 27-March 1. There will be a symposium on platelets on February 27; a symposium on the effect of diet and environment in children on February 28; and a general discussion of advances in pediatrics on Mar. 1. Case presentations each afternoon will allow diversification and informality for individual questions and answers. Physicians interested in attending the meetings may apply to the University of Minnesota Medical School, Department of Pediatrics, Attention: William Krivit, M.D.

CUBAN DOCTOR ASSIST BY ACCP

"At the meeting of the Board of Regents of the American College of Chest Physicians held in Washington, D. C. on November 28, 1960, a resolution was adopted to establish a relief fund for Cuban members of the College who have been exiled temporarily from their country. The Board of Regents voted to contribute \$5,000 to launch the fund and contributions are being solicited from College members and others who are interested. The Cuban Chapter of the College was founded in 1940 and now has 74 members."

POISON CENTER REORGANIZED

Dr. Joseph N. Spencer, Pharmacologist, and Dr. Arnold L. Pritschow, Toxicologist, at the School of Medicine, Department of Physiology and Pharmacology, University of South Dakota, have reorganized the South Dakota Poison Information Center. Dr. Pritschow was for six years associated with the Poison Information Center and Toxicology Laboratory at the University of Oklahoma.

With the installation of a direct line from the telephone exchange to the Poison Information Center, the Center now can give direct, immediate and 24 hour service to all incoming calls. The telephone number of the South Dakota Poison Information Center in Vermillion is Market 4-3432.

Under their direction, there is being gathered, carded, catalogued and indexed for immediate reference, a library of commercial products, poisons and drugs, with toxic dose, if known, symptoms and treatment. Dr. Spencer and/or Dr. Pritschow have made themselves constantly available, day or night, for immediate information and consultation regarding problems of overdosage and poisoning.

THIRD DISTRICT ELECTS OFFICERS

The Third District Medical Society met in Flandreau on December 8, and elected Dr. Donald Hillan of Madison, as president of the District. Vice-president is Dr. B. T. Otey of Flandreau, and

secretary-treasurer is **Dr. C. M. Kershner** of Brookings. Delegates to the State Association are **Dr. Donald Scheller** and **Dr. J. A. Anderson**, with alternates **Dr. H. R. Wold** and **Dr. J. A. Muggly**.

AMA TO SPONSOR MEDICOLEGAL MEETS

Three regional medical-legal conferences have been scheduled by the American Medical Association during March and April.

Dates for the meetings are March 10-11 in San Francisco, April 14-15 in Louisville, and April 28-29 in New York City.

Doctors and lawyers are invited to attend. Advance registration cards may be obtained from the South Dakota State Medical Association or from the Legal Division, American Medical Association, 535 North Dearborn, Chicago, Illinois.

DEAN HARD WINS APPOINTMENT

Dean W. L. Hard of the School of Medicine, State University of South Dakota, has been appointed to a Committee on Licensure Problems of the Association of American Medical Colleges. The function of the Committee is to consider the problems effecting medical licensure between the states and to make recommendations to the Executive Council and in turn the Association of American Medical Colleges for action or position they might take in representing the interests of the medical graduates on licensure matters.

NEWS NOTES

Dr. Lloyd Ralston, Aberdeen, was guest speaker on the scientific program of the North Dakota Chapter of the American Academy of General Practice in Grand Forks in November.

Dr. Roger Miller, Rapid City, received serious injuries in an auto mishap in

Rapid City in November.

Dr. Rudolf Orgusaar has closed his office in Woonsocket and now practices in Florida.

Dr. James E. Hollingsworth retired Avon physician died at the age of 83 in a Yankton hospital.

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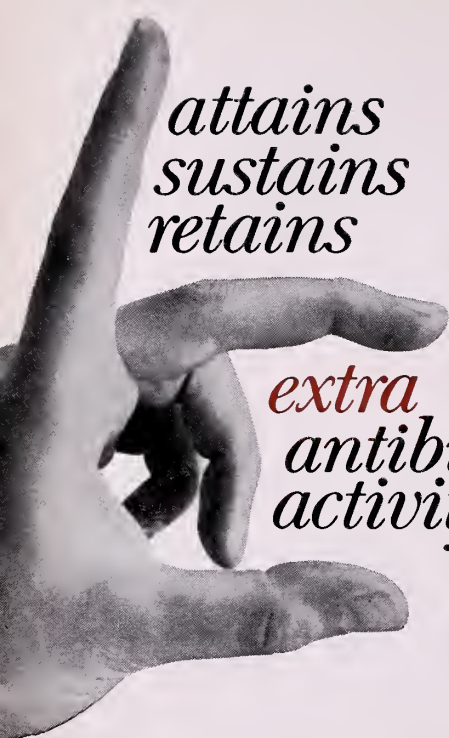
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528 Kansas City St.

JANUARY 1961

PHARMACEUTICAL SECTION



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



*attains
sustains
retains*

*extra
antibiotic
activity*

DEC

attains activity
levels promptly

DECLOMYCIN Demethylchlortetracycline attains—usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity
levels evenly

DECLOMYCIN Demethylchlortetracycline sustains, through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or at another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.

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WITH
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ACTIVITY
WITH OTHER
TETRACYCLINE
THERAPY

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OTHER TETRACYCLINES—PEAKS AND VALLEYS

POSITIVE ANTIBACTERIAL ACTION

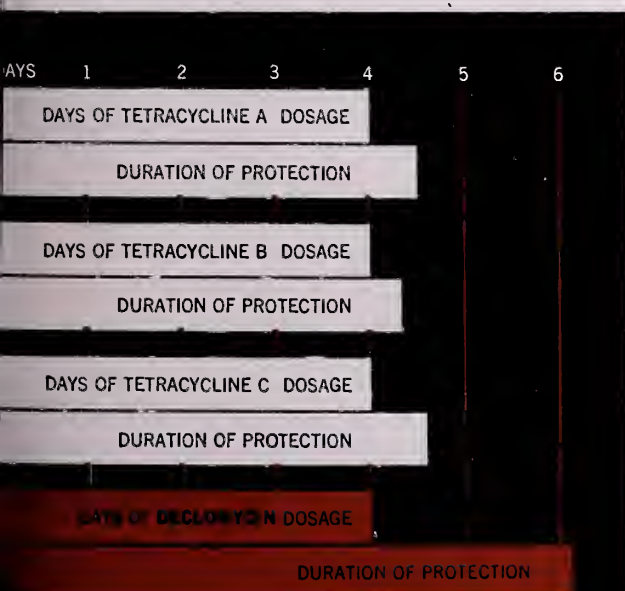
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DECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may thus be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.



PROTECTION AGAINST RECURRENCE

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



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PHARMACEUTICAL ECONOMICS

**PRIVATE EXPENDITURES FOR DRUGS
AND OTHER
COMPONENTS OF MEDICAL CARE**
by
Odin W. Anderson, Ph.D.*
New York, N. Y.

THE MEDICAL CARE FIELD is attracting a great deal of attention in a postwar economy characterized by expansion in all lines of goods and services. Medical care has been part of this expansion, as can be seen in the increased use of health services, the more equitable diffusion of these services among all income groups, and the inherent expansiveness of scientific advances in medical care and their application.

All the components of personal health services — hospital care, physicians' services, drugs, dentists' services and all others recognized as important to the treatment of illness and the maintenance of health — are coming under public scrutiny. In part this is due to their increased value and prominence; it is also the result of rising costs. The very dynamism of the medical care field often makes these cost increases seem more ap-

parent than rising costs in other areas of our economy because they have taken place over such a short period.

Expenditures for Medical Care

In the five years from 1954 through 1958, private per capita expenditures for all personal health services and goods increased 28 per cent. Per capita expenditures rose almost twice as fast as prices, thus making rises in costs seem more apparent, although increased expenditures have also meant an increase of 10 per cent in volume of services (Tables 1 and 2). Such increases in per capita spending for personal health services are not peculiar to the United States; they are a general phenomenon in all Western countries, as was reported in a recent article presenting data for 14 European countries from 1950 to 1955. The data show that per capita expenditures for general practitioners' services, hospital care, physicians' services in the hospital, and for drugs rose appreciably during the period.

* Research Director, Health Information Foundation.

TABLE 1
Per Capita Increase and Percentage Increase in Expenditures
for Personal Health Services, 1929-1958

	Per Capita**					Per cent increase	
	1929	1939	1949	1954	1958	1954-58	1949-58
Private Expenditures							
Total medical	\$24.15	\$21.79	\$54.55	\$74.96	\$95.57	27.5	75.2
All drugs	4.95	4.68	10.54	13.60	19.02	39.9	80.5
Physicians' services	7.89	6.63	15.84	19.54	22.76	16.5	43.7
Dentists' services	3.96	2.95	6.23	8.84	9.76	10.4	66.9
Other goods & services	3.14	2.60	6.16	7.73	10.91	41.1	77.1
Hospitals	3.31	3.76	12.01	18.62	25.19	35.3	109.7
Insurance†	.89	1.17	3.77	6.64	7.93	19.4	110.3
Other consumer items							
Food	160.63	146.64	382.75	459.59	447.48	—2.8	16.7
Apparel	78.29	55.35	125.38	124.39	155.65	25.1	24.1
Personal care	9.18	7.68	15.31	18.19	24.86	36.4	62.1

**Based on civilian population as of July 1 of year named. U. S. Department of Commerce, various national income issues of SURVEY OF CURRENT BUSINESS.

†Premiums less claims.

Since 1929 in the United States, families have gradually laid out increasing sums in their budgets for personal health services; from 3.5 per cent in 1929, this proportion in 1957 came to 4.9 per cent of disposable personal income. To look at it another way, personal health services during the same years have accounted for a gradually increasing proportion of family expenditures and in 1957 stood at 5.3 per cent of the average family's total expenditures as contrasted with income, an increase of 40 per cent since 1929. This means that not only have families earmarked more in their budget for health, but they also have used a larger part of their spending power to buy health services.

Use of services — as well as price — has increased. The number of physician visits per

person, for example, has doubled since 1929, the rate of admissions to general hospitals has doubled since 1935, and the percentage of live births taking place in hospitals in the U. S. increased from 37 in 1935 to 95 in 1956. Thus, steadily increasing demand for medical care in a growing population has become a vital factor, affecting the provision and financing of all health services.

Price Changes

The Consumer Price Index of the U. S. Department of Labor, Bureau of Labor Statistics, for all items increased 104.8 per cent between 1938 and 1958. During this same period, the price index for all components of medical care combined increased 99.2 per cent; as one component, drug prices increased 44 per cent. Over the same years, the price of food rose

148.6 per cent, and of apparel, 100.4 per cent. Both of these items ranked higher in proportionate increase than all medical care or any of its separate components other than hospital service. In common with indexes for other services (not related to health), the Medical Care Price Index of the Bureau of Labor Statistics has risen more rapidly than indexes for other consumer items during the last five years, as shown in Table 2. The price per unit of medical services, as measured by this index, increased 15 per cent between 1954 and 1958.

However, it is characteristic of prices for services of all kinds to lag behind dominant price trends and then to begin to rise more rapidly than the general price trend. It is interesting in view of the surge in service prices in recent years that per capita expenditures for personal care (exclusive of medical care) increased 62.1 per cent from 1949 to 1958, and per capita expenditures for medical care during the same period increased 75.2 per cent. These magnitudes, which are somewhat similar, greatly exceed increases for expenditures for food and apparel (Table 1).

In considering price indexes, their limitations and special differences must be accounted for. The Consumer Price Index, for

TABLE 2

Per cent Increase in Medical Care Price Index
and Other Consumer Items, 1938-1958

	Per cent increase	
	1938-1958	1954-1958
Medical Care Price Index		
All medical care	99.2	15.3
Hospital room rates	296.8	26.3
Physicians' fees	83.6	14.9
All drugs	44.0	9.6
Dentists' fees	87.7	12.3
Consumer Price Index		
All items	104.8	7.6
Food	148.6	6.8
Apparel	100.4	2.6
Personal care	118.3	13.4

Source: U. S. Department of Labor, "Consumer Price Index, Price Indexes for Selected Items and Groups, Annual Averages, 1935-58," September 1959.

Note: A general evaluation has been made of the Medical Price Index by Health Information Foundation. On the whole it was felt that the Medical Price Index served the purpose for which it was designed, i.e., to show trends; it was also acknowledged that if some weaknesses in the Index were remedied, it would become more valuable. The components priced in the prescription and drugs part of the Index are: narcotic and non-narcotic prescriptions, penicillin tablets, multiple

vitamin concentrates, aspirin, milk of magnesia, tincture of iodine. Considering the range and complexity of pharmaceutical products today this would appear to be a small list to reflect the drug field.

Harry I. Greenfield and Odin W. Anderson, **THE MEDICAL CARE PRICE INDEX**, New York, Health Information Foundation, 1959. Research Series No. 7.

example, includes a limited number of items; the Wholesale Price Index of the Bureau of Labor Statistics, on the other hand, prior to 1955 had no index for drugs alone. The only category for analysis included a broad range of items in addition to drugs (cosmetics, etc.), a fact which results in a different perspective of price trends. An examination of the movement of wholesale prices for this category of drugs and pharmaceuticals from the base years 1947-1949 until the present reveals, that these prices have been maintained at the same levels and, in fact, have dropped. On the other hand, drug components selected for compiling the Medical Price Index of the Bureau of Labor Statistics show an increase in this group of retail prices since the base period (Table 2).

The public is quickly concerned whenever there are sharp changes in price indexes, particularly where services and goods are considered fundamental necessities. Therefore in 1955 Health Information Foundation sponsored a survey of a representative sample of adults to study their attitudes toward hospitals, physicians, dentists, drugs and the costs of these services. A basic purpose of the survey was to measure the public's understanding of progress and changes in medical care and to see how the public rates medical care services individually and as part of the national economy. To quote directly from a preliminary report:*

"When asked to characterize the costs of medical care, in general, 26 per cent of a national cross-section of the adult population described them as 'much too high.' Thirty-five per cent say the costs of medical care are 'somewhat high,' and another 35 per cent believe they are 'about right.' The remaining 4 per cent have no opinion.

"To aid the interpretation of this finding, however, the public was also confronted with three other types of costs — food

* National Opinion Research Center, **PUBLIC ATTITUDES TOWARD PRESCRIPTION COSTS AND THE DRUG INDUSTRY**. New York, Health Information Foundation, 1955.

prices generally, clothing prices generally, the repair charges (TV, auto repair, etc.) — and asked the same question regarding these.

“As shown below, it is apparent that medical costs receive much less criticism than food costs or repair charges, and even somewhat fewer complaints than clothing prices.

“Now I have a couple of questions about the cost of living. For example, do you feel that (each item below) are much too high, somewhat high, or about where they should be?”

	Much Too High	Somewhat High	About Right	Don't Know
Food prices, generally	40%	42	17	1 = 100%
Clothing prices, generally	27%	41	30	2
Repair charges (TV, auto repair, etc.)	45%	28	18	9
The costs of medical care, in general	26%	35	35	4

“Within the general area of medical care, however, it is apparent that prescription costs, along with hospital charges, rank relatively high as a cause of complaint. As the table below indicates, doctor and dentist fees are much more frequently judged to be ‘about where they should be.’

“‘Well, under medical care, would you say that doctor fees, generally, are much too high, somewhat high, or about where they should be? (Repeat for each item below).’”

	Much Too High	Somewhat High	About Right	Don't Know
Doctor fees, generally	16%	33	48	3 = 100%
Hospital charges	39%	30	22	9
Dentists' fees	24%	31	36	9
Cost of Prescriptions at drug stores	38%	28	26	8

Related Aspects of the Economy

Underpinning the rising price and increasing expenditure trends, there also has been an increase in real purchasing power for the majority of the American public, particularly during the years following World War II. In the twenty years from 1938 to 1958, per capita disposable personal income measured in constant dollars increased approximately 80 per cent, a clear indication that there has been an absolute increase in the public's purchasing power.

Moreover, there has been an increase in so-called discretionary dollars — dollars that can be spent on goods and services beyond those considered fundamental and most necessary. The Committee for Economic Development recently released a report on economic growth in the United States which commented as follows.*

“Beyond these basic matters of health, food, clothing, and shelter, the average American is now able to spend far more on conveniences, luxuries and services; for an automobile, television, travel, theater, books, magazines, newspapers, sports, and a host of other things he could not afford, or as much of, in earlier periods.”

Greater discretionary spending power, however, also affects family expenditures for necessities such as food, clothing, shelter and medical care. Just as all expenditures may exceed needs to a greater extent than formerly, so is there a component of medical care that goes beyond the fundamental to include greater comfort, convenience and even reassurance for the patient and family.

Nationwide Totals and Averages for Private Health Expenditures

Table 4 shows nationwide private expenditures for all types of personal health goods and services as estimated by the Health Information Foundation-National Opinion Research Center family surveys in a five-year interval, and as estimated from Department of Commerce data for approximately the

*Committee for Economic Development, Research and Policy Committee. A Statement on National Policy. ECONOMIC GROWTH IN THE UNITED STATES: ITS PAST AND FUTURE. New York, February 1958.

TABLE 3

Wholesale Price Index of Drugs and
Pharmaceuticals** and Consumer Price Index of
Selected Drugs and Medicines

	(1947-1949=100)	
	Wholesale Index	Consumer Index
1947-49	100	100
1950	92.5	103.9
1951	95.6	106.9
1952	92.5	107.9
1953	92.9	108.9
1954	93.9	110.1
1955	92.8	111.2
1956	92.1	113.7
1957	93.3	116.7
1958	94.0	120.7

same period. For the All Drugs* category, the HIF-NORC and Department of Commerce estimates are extremely close. Both sets of data show that costs incurred for physician services for hospital care are rising faster. Also, both sets of data show the increas-

ing proportion of the medical dollar being spent at retail for all drugs outside the hospital.

An important additional finding obtained in the re-survey of family medical costs in 1958, but not possible in 1953, was that drugs prescribed by physicians and dentists comprised 67 per cent of the total drug expenditures reported by families. In other words, two-thirds of all expenditures for out-of-hospital drugs administered in hospitals or by physicians and dentists and billed for by them are included in the estimated expenditures for these groups.

In the 1953 survey (comparable data not yet available for 1958) it was possible to determine what proportion of the hospital bills incurred by the public represented drug charges. Table 5 shows that for surgical ad-

TABLE 4

Estimated National Gross Total Charges
Incurred by Families in the United States
for All Personal Health Services and Goods
by Specified Years

Services and goods	NORC sample				Department of Commerce Estimates			
	July 1952- June 1953		May 1957- June 1958		1952		1957-1958 averaged	
	Amount, billions	Per cent	Amount, billions	Per cent	Amount, billions	Per cent	Amount, billions	Per cent
Total	\$10.2	100	\$16.2	100	\$ 8.8	100	\$14.5	100
Physicians	3.8	37	5.4	33	2.8	32	4.0	28
Hospitals	2.0	20	3.7	23	2.4	27	4.1	28
All drugs	1.5	15	3.3	20	1.6	18	3.2	22
Other medical goods and services	1.3	13	1.3	8	1.0	11	1.6	11
Dentists	1.6	16	2.4	15	1.0	11	1.7	12

Note: For detailed footnotes defining the categories and clarifying differences between NORC and Department of Commerce figures see: Odin W. Anderson and Jacob J. Feldman. FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill, 1956. Table A-13 p. 109, for the 1952-1953 data and in unpublished material from the HIP-NORC family survey of 1958, NORC 409 9/25/59, Table D-III-a.

**Prior to 1955 this index included cosmetics and related products.

Sources: For the Wholesale Price Index: U. S. Department of Commerce, "Business Statistics 1957," p. 28; U. S. Department of Labor, "Wholesale Prices and Price Indexes 1957" BULLETIN NO. 1235, p. 100, and BULLETIN NO. 1257, p. 161. For the Consumer Price Index: U. S. Department of Health, Education, and Welfare, HEALTH EDUCATION, AND WELFARE INDICATORS, September 1959.

*In this report, the designation "All Drugs" includes prescription drugs and all other drug items purchased. Where prescription drugs only are discussed, they are so designated. In no references are in-hospital drugs included.

missions, drug charges accounted for 12 per cent of the total hospital bill, or \$18 on the average; for medical admissions, the cost of drugs constituted 9 per cent of the hospital bill, or \$9.* A study by the Commission on Financing of Hospital Care of over 12,700 hospital admissions in 67 hospitals throughout the country corroborates the HIF data. It showed that among these patients, drugs ac-

*Odin W. Anderson, "Hospital Charges in the United States," HOSPITALS, May 16, 1957.

TABLE 5

Distribution of Hospital Charges by Type of
In-hospital Goods and Services for Surgical
and Medical Admissions July 1952-June 1953

Type of in-hospital expense	Surgical admissions		Medical admissions	
	Mean charge all admissions	Percentage distribution	Mean charge all admissions	Percentage distribution
Room and board	\$ 85	53%	\$ 77	60%
Laboratory	14	9	14	11
All drugs	18	12	12	9
Operating room	20	13	*	**
Anesthesia	11	7	—	—
X-Ray	7	4	12	10
Other	6	3	13	10
Total charges	\$160	\$160 = 100%	\$128	\$128 = 100%

*Less than 50 cents.

**Less than one-half of one per cent:

Note: In instances where percentages and admissions do not add up to the precise figures the discrepancies are due to rounding.

Odin W. Anderson, "Hospital Charges in the United States," HOSPITALS, May 16, 1957.

counted for 15 per cent of the charges (not costs) for all hospital services.**

Family and Individual Averages

The average annual expenditures by families for personal health services in 1953 came to \$207, or 4.6 per cent of the average family's income (Table 6). The higher the income, the greater was the total expenditure for the total of all personal health services, and the smaller the percentage of family income expended. The amounts spent by families and individuals for various categories of service in 1953 and by individuals in 1958 are shown in Table 7.

Average expenditures for all drugs by family income are seen in Table 8, which shows that drug expenditures do not have the same increase by income as do total medical costs. In fact, the lowest income group spends the same amount for drugs as those in income groups of over \$5,000 a year. The data in Table 9 shows that expenditures for drugs increase with age, and that females have higher expenditures in this category than males do.

Expenditures for drugs and medications in terms of urban or rural residence reveal extremely small differences, as seen in Table 10. However, the data do show that the

**Harry Becker, ed., "Prepayment and the Community," from FINANCING OF HOSPITAL CARE IN THE UNITED STATES, Vol. 2, p. 208. McGraw-Hill Book Co., New York. 1955.

country resident tends to spend a larger proportion of his medical dollar on drugs, even though he spends a smaller total for medical care than his urban counterpart.

TABLE 6

Mean Gross Charges by Families by Income and
and Per cent of Income
(July 1952-June 1953)

Family income	Mean gross charges	Per cent of income
All Income	\$207	4.6
\$0 -1,999	130	12.2
\$2,000-3,499	152	5.6
\$3,500-4,999	207	5.1
\$5,000-7,499	259	4.4
\$7,500 & Over	353	2.9

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956, Tables A-15 and HIF-NORC Project #335, Table D-I-1, February 10, 1955.

TABLE 7

Mean Gross Charges of All Personal Health
Services Per Family and Per Individual
by Type of Service

Type of Service	July 1952-June 1953	May 1957-June 1958	
	Charges per family	Charges per individual	Charges per individual
All services	\$207	\$65	\$94
All drugs	31	10	19
Physicians	78	25	31
Hospitals	41	13	22
Dentists	33	10	14
Other	26	8	8

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Tables A-19 to A-24, pp. 118-123.

TABLE 8

Per Capita Expenditures for All Drugs by Family Income

Income	July 1952-June 1953 Mean expenditures per person
All Income	\$10
\$0 -1,999	11
\$2,000-3,499	7
\$3,500-4,999	9
\$5,000-7,499	11
\$7,500 & Over	11

Note: Derived from Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Table A-25, p. 124.

Very recent data from the HIF-NORC survey of 1958 give us up-to-date information on the charges per person by age, sex, and the ratio of prescribed drugs to all drugs purchased outside of the hospital. They are seen in Tables 11 and 12. The same age and sex PATTERNS for total charges emerge in the 1958 data as for 1953. The new information of great interest is the relative proportion of prescribed drugs to all drugs for various age groups (Table 12), particularly the relatively high ratio for those 65 years old and over.

Another intriguing aspect of charges for drugs, revealed in both the 1953 and 1958 surveys, is that there is very little difference among individuals who have health insurance and the uninsured. All other services show appreciable differences, i.e., the insured incur greater charges for hospital care, physicians' services, dental care, and all other services. But for all drugs they incur the same charges as the uninsured.

Other studies conducted by HIF-NORC reveal essentially the same general patterns of expenditures for and use of health services; they differ mainly in degree. During the same period as the first nationwide survey reported here, for example, similar studies were made of insured families in Birmingham, Alabama, and Boston, Massachusetts. Three groups were studied; families in Birmingham and Boston enrolled in Blue Cross-Blue Shield Plans, and families insured by the Aetna Life Insurance Company in Boston. The highlights of the findings are presented in Table 13.

Also, a survey was made of three labor

unions in New York City whose members are enrolled in two contrasting types of medical care plans, Group Health Insurance (GHI) and Health Insurance Plan of Greater New York (HIP). Pertinent cost data were gathered by type of service. The union membership ranged from semi-skilled, to skilled, to white collar workers, with incomes primarily in the range of \$3,000 to \$7,500. Because of the need in the survey to match such factors as age, sex, and income in the two groups, GHI and HIP data do not necessarily apply to the general population. In fact, the expenditures per person for all health services were comparatively high in these groups, \$154 for GHI and \$139 for HIP. Expenditures for drugs outside of the hospital were also high, \$35 and \$36 respectively. And drugs accounted for 21 per cent of all costs of services for GHI and 26 per cent for HIP.*

TABLE 9

Variations in Average Expenditures for All Drugs by Age and Sex

(July 1952-June 1953)

Age	All persons	Male	Female
All ages	\$10	\$ 7	\$12
0-5	6	7	6
6-17	5	4	5
18-34	8	5	10
35-54	11	7	15
55-64	15	12	18
65 and Over	22	17	26

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Table A-30, p. 129.

TABLE 10

Average Family Expenditures for all Drugs by Residence, and Per cent of Medical Dollar

Urban areas of			
1 million or more	\$32	13%	of medical \$
Other urban	29	14%	of medical \$
Rural non-farm	30	15%	of medical \$
Rural farm	33	19%	of medical \$

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Table A-18 p. 117.

*Odin W. Anderson and Paul B. Sheatsley, COMPREHENSIVE MEDICAL INSURANCE: A STUDY OF COSTS, USE AND ATTITUDES UNDER TWO PLANS, New York, Health Information Foundation, 1959. Research Series No. 9.

TABLE 11
Mean Charges for All Drugs
by Age, Sex, and Per Cent of Medical Dollar
(May 1957-June 1958)

Age	Male				Female	
	Mean charges	% of medical dollar	Mean charges	% of medical dollar	Mean charges	% of medical dollar
All ages	\$ 9	20%	\$16	21%	\$22	19%
0-5	14	29	15	30	13	30
6-17	9	18	8	17	10	19
18-34	13	13	8	15	18	13
35-54	22	20	18	20	27	21
55-64	31	24	28	23	33	25
65 and Over	42	24	35	22	48	25

NIF-NORC Project #409.

TABLE 12
Proportion of Costs to Individuals for All Drugs
Represented by Prescription Drugs
(May 1957-June 1958)

Age	Percentage
All ages	67%
0-5	57
6-17	56
18-34	69
35-54	64
55-64	68
65 and Over	79

NIF-NORC Project #409.

One of the interesting aspects of these findings is that the expenditures for drugs did not appreciably differ between two plans which have very different ways of organizing and providing physicians' services. The GHI plan permits free choice of physicians in New York City, and physicians are paid according to a fee schedule. HIP is organized in group practice units with physicians paid on a capitation basis, or by salary, or by a combination of the two.

Family and Individual Distribution of Costs

All surveys of costs of personal health services show that some families and individuals have no expenditures in a year and that at the other extreme a few have large expenditures. This is true for all categories of services, including drugs. In Table 14, it can be seen that all types of costs fall unevenly for families over a year.

Table 15 focuses specifically on the distribution of expenditures for drugs, showing that a small proportion of each income group incurs relatively high drug costs, with the proportion increasing as income rises. Similar patterns of distribution are found in the

Birmingham and Boston studies, and in the New York City survey mentioned earlier. (Tables 16 and 17).

Health Insurance Coverage

The most recent systematic survey of the population of the United States which examined coverage for health insurance was conducted by NORC under a Foundation grant in 1958. At that time 69 per cent of the families and 65 per cent of the individuals in the country had some type of health insurance. A preliminary report has been published by the Foundation,* and a more definitive report is now being prepared.

Like earlier studies, this survey shows that prevailing health insurance benefits pay primarily for hospital care and physicians' services in the hospital. Gradually, however, health insurance is coming to pay for physicians' services outside of the hospital, i.e., home and office calls, and drugs. And now, a number of plans are offering protection against the cost of dental services.

Drugs are also beginning to receive increasing attention from insurance agencies as an area of likely coverage. A plan in Windsor, Ontario, began to insure drug costs about two years ago, but so far has had little experience to report. Meantime, California Physicians' Service, the Blue Shield Plan in that state, is including drugs in a broad coverage contract, as are a number of other Blue Cross and Blue Shield Plans.

* Health Information Foundation, "Voluntary Health Insurance: 1953 and 1958," PROGRESS IN HEALTH SERVICES, Vol. VIII, No. 5, May 1959.

TABLE 13

Per Cent of Medical Dollar Spent for All Drugs
and Mean Expenditures, by Families
in Two Cities and Three Insurance Plans

(12-Month Period Prior to Latter 1953)

Plan	Mean expen- ditures for drugs per family	Mean expen- ditures for drugs per family	Per cent column 2 is of column 1	Mean expen- ditures for drugs per in- dividual
BIRMINGHAM BC/BS	\$241	\$49	20%	\$17
BOSTON BC/BS	262	45	17	23
Aetna	220	36	16	19

Odin W. Anderson and National Opinion Research Center, VOLUNTARY HEALTH INSURANCE IN TWO CITIES: A SURVEY OF SUBSCRIBER-HOUSEHOLDS. Cambridge, Massachusetts, Harvard University PRESS, 1957.

TABLE 14

Per cent of Families With Annual Expenditures in
Excess of Approximately \$200 for Various Types
of Personal Health Services

(July 1952-June 1953)

Type of services	Per cent
All services	34%
All drugs	2
Surgery	3
Other physicians' (excluding surgery and obstetrics)	6
Hospital	6
Dental	4

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Tables A-40 to A-47, pp. 139-146.

Drugs administered in hospitals are normally covered under hospitalization insurance. Prescribed drugs are now normally included as a benefit in major medical insurance contracts for high-cost illnesses. The 1958 survey already cited shows that 7 per cent of all families had at least one member

covered by major medical insurance during the survey year, and this type of coverage is growing rapidly. Undoubtedly, then, a start is being made by insurance agencies in meeting drug costs that are an essential component of the medical care economy.

Conclusion

In describing the price and expenditure patterns of medical care in the context of our total economy, it becomes evident that medical care has not been unique in the changes that have taken place during the last twenty years. What seems to be the cause of concern is that the Medical Care Price Index in the last five years has risen faster than indexes for other components of family expenditure.

However, family medical care expenditures have increased faster than prices because of increased use of health services; therefore the combination of these two factors — rising prices and increased use — seem to stand out in economic indexes. Moreover, because data on medical care expenditures inevitably include the relatively sudden, unexpected and high-cost episodes experienced by some fam-

TABLE 15

Percentage Distribution of Expenditures for All
Drugs Among Families by Family Income
(July 1952-June 1953)

Per cent reporting expenditures for all drugs equal to

Family income	\$0	\$1-45	\$46-94	\$95-194	\$195 and Over	Unknown
Total	33	46	12	7	2	1
\$0 7-1,999	38	44	9	6	1	1
\$2,000-3,499	39	46	10	3	1	—
\$3,500-4,999	31	47	13	7	1	—
\$5,000-7,499	26	48	12	9	3	1
\$7,500 and Over	26	43	20	8	2	—

Odin W. Anderson and Jacob J. Feldman, FAMILY MEDICAL COSTS AND VOLUNTARY HEALTH INSURANCE: A NATIONWIDE SURVEY. New York, McGraw-Hill Book Co., 1956. Table A-45, p. 144.

TABLE 16

Percentage Distribution of Families by Level of Gross Expenditures for All Drugs in Two Cities (12 months prior to latter 1953)

Expenditures	Birmingham BC/BS	Boston BC/BS	Aetna
None	7%	12%	17%
\$1-24	42	41	42
\$25-44	16	15	17
\$45-94	20	17	13
\$95-194	10)	11)	9)
\$195-294	3) 15%	2) 15%	a) 10%
\$295 or more	2)	2)	1)
Not stated	1	1	—

a Less than 0.5 per cent.

Odin W. Anderson and National Opinion Research Center, VOLUNTARY HEALTH INSURANCE IN TWO CITIES: A SURVEY OF SUBSCRIBER-HOUSEHOLDS. Cambridge, Massachusetts, Harvard University Press, 1957. Table A-14, p. 73.

TABLE 17

Percentage Distribution of Individuals by Amount Spent on All Drugs GHI-HIP (12 months prior to Summer months 1957)

Total amount spent on drugs	Total	
	GH1	HIP
\$0	17%	18%
\$1-9	12	18
\$10-19	19	17
\$20-49	25	23
\$50-99	19	15
\$100 or more	8	9
	100%	100%

Odin W. Anderson and Paul B. Sheatsley, COMPREHENSIVE MEDICAL INSURANCE: A STUDY OF COSTS, USE, AND ATTITUDES UNDER TWO PLANS. New York, Health Information Foundation, 1959. Research Series No. 9.

ilies, they tend to obscure the fact that for the average family in a given year total medical expenses come to about 5 per cent of family income. This is not intended to minimize the impact of high costs for those who experience them, but rather to illustrate the need for judicious interpretation of price and expenditure data.

A dynamic economy has led to increased consumption of the entire range of goods and services, medical care included. In this field, the growth of voluntary health insurance, which now protect almost 70 per cent of the population, has made medical care easier to pay for, particularly hospital care and physicians' services in the hospital. The consequence has been the kind of medical economy briefly described here.

DuBOIS NAMED MANAGING EDITOR OF PHARMACY JOURNAL

Kenneth D. DuBois, a 1939 graduate of South Dakota State College, has been named managing editor of the Journal of Toxicology and Applied Pharmacology.

A native of Aberdeen DuBois received a degree in pharmacy from State College, and master's and Ph.D. degrees from Purdue, and the University of Wisconsin. He is currently a professor of pharmacology at the University of Chicago and director of the U. S. Air Force Radiation Laboratory there. Prior to his appointment as managing editor, he was associate editor of the toxicology and pharmacology journal.

HISTORICAL CALENDAR CONNECTS PHARMACY AND ART

What has pharmacy to do with art? Six full-color reproductions in the 1961 calendar of the American Institute of the History of Pharmacy "testify again to the happy marriage of art and pharmacy, which has been a hidden facet of their profession for many pharmacists," says Ernst Stieb, the Institute's Secretary.

Every member of the Institute will receive a copy of the colorful calendar of pharmaceutical art, late in the year. A limited supply is available to non-members at \$1.50 per copy, Dr. Stieb announced, from the American Institute of the History of Pharmacy office, Madison 6, Wisconsin.

They are reproductions in previous calendars are now out of print, the Institute reports, but collected sets are being preserved in a number of libraries and by individual members.

In the 1961 edition, two illustrations with wide appeal picture 16th-century wooden drug containers, brightly decorated with coats of arms and an 18th-century cabinet of samples, representing a miniature pharmacy.

The "Stork Pharmacy," a painting by the pharmacist-painter Carl Spitweg (1808-1885), appears on another calendar leaf. A large mortar sits in the courtyard outside the pharmacy, whose name is clear enough from the unique sign that hangs above its entrance.

Also shown is a charming illustration in which the artist Anton Pieck captures the atmosphere of a Dutch pharmacy of the past century. Another painting depicts the pharmaceutical laboratory of the Convent of S. Maria Novella at Florence.

The sixth of the full-color pictures brings a 16th-century miniature depicting Christ in a pharmacy, prescribing for the spiritual ills of mankind, represented by Adam and Eve.

PRESIDENT'S PAGE

Rx



Your Executive Committee, State Board Members, and the Rapid City Organization are now in the beginning stages in organizing the basic arrangements for the 1961 convention. It would be at this time for all persons concerned to send in their suggestions. This convention is yours — your ideas and business to be brought before your association will be heard and entered in the schedule.

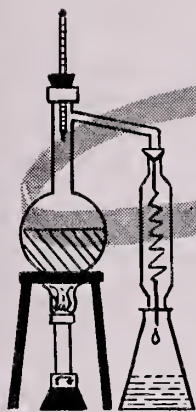
I must urge each store owner AGAIN to flood the desk of your Washington Representative and Senator on the importance of the fair-trade bill. Let him know how you feel towards this bill and why it is so important for the independent store owner.

We have to fight to counteract the developments that jeopardize the independent drug-stores and the profession of Pharmacy — no one store owner should do this alone. What we do here in our state is fundamentally the foundation of our national organization. Without our help, they have little to offer us.

May I wish all members a happy and prosperous year in 1961!

Sincerely,

Albert H. Zarecky



Advances In Drug Research

ENZYME THERAPY — AN IMPORTANT NEW ERA IN MEDICINE

"We are only on the threshold of enzyme therapy. This is fundamental therapy which can have a direct effect on all metabolic processes. We stand today where we stood thirty years ago with hormone therapy and twenty years ago with antibiotic therapy." With these words, Dr. Eugene E. Clifton, outstanding New York surgeon, characterized the present state of development of enzyme therapy.

You are all acquainted with trypsin and other digestive enzymes which have been used therapeutically for many years, but the idea that enzymes can be used for other than digestive difficulties has taken shape slowly. Enzymes are biochemical catalysts. Some, such as the digestive enzymes, originate in specialized glandular epithelium of the pancreas and gastrointestinal tract while others specifically catalyze the great multitude of complex metabolic processes of the body and are present not only in the blood stream but also in every cell of the body.

Removal of debris such as dead tissue, pus, and foreign material from wounds is generally regarded as essential to proper healing.

These contaminants promote growth of bacteria and shield them from the action of antimicrobial agents. Ridding wounds of debris is known as debridement, and in years gone by this has been accomplished by surgical means. Surgical procedures are still used for debridement, particularly in removal of deeply situated necrotic or scar tissue of abscesses, ulcers, and similar lesions. On the other hand, where the defect lends itself to topical medication, potent enzymes may be used to digest and liquefy the fibrinous and nuclear debris, leaving the surrounding live tissue intact. Removal of necrotic tissue removes the serious barrier to healing.

Liquefaction of pus by these proteolytic enzymes has led to their use in combination with antibiotics for treatment of pleural abscesses and empyema, which involve the accumulation of pus in the chest cavity and the lungs. These enzymes have proved their usefulness also in certain gynecologic complaints in which purulent discharges are a factor.

One of these debriding agents is Elase, a product combining the two enzymes, fibrinolysin (plasmin) and desoxyribonuclease (DNA-ase). Plasmin is a gentle proteolytic enzyme which hydrolytically changes fi-

brinous exudates into simpler molecules. DNA-ase is specifically active against desoxyribonucleic acids and desoxyribonucleoproteins. These latter substances are contained and released from necrotic cells as dead nuclear material and comprise approximately two-thirds of the bulk of pus. Reduction of these molecules into polynucleotides results in a marked thinning effect on purulent exudates and greatly facilitates their removal from wounds. It is important to remember that DNA-ase specifically affects nuclear materials and these materials can only be exposed to the enzyme when the cell wall is damaged — in other words when the cell is dead.

Historical Background

In 1838 Denis observed that fibrin obtained by a special procedure known as "wet cupping" in which the naturally occurring enzymes were not destroyed by heat would dissolve in 12 to 24 hours. This discovery presaged the development of streptokinase by Tillett and associates in 1933; the liquefying factor in plasma (Milstone, 1941) and in serum (Tagnon and associates, 1942); and ultimately to our present understanding of the activation of plasmin and its mode of action (Kaplan, 1944 and Christensen, 1945).

Desoxyribonuclease was discovered in pancreatic tissue by Araki (1903) who demonstrated that crude preparations of pancreatic enzymes would liquefy gels composed of nucleic acids and nucleoproteins. The enzyme was isolated from beef pancreas and named by McCarty (1946). It was crystallized by Kunitz (1948) and identified as a protein of the albumin type with a molecular weight of about 60,000 (Kunitz, 1950).

How Enzymes Split Protein Molecules

Proteins are large molecules composed of many amino acids linked together in chains. There may be hundreds to thousands of these "building blocks" in a single protein molecule. Certain enzymes are capable of splitting these chains into smaller molecules of intermediate size until only the individual amino acids are left. Enzymes are specific in this action. That is, a particular enzyme will only promote the separation of certain linkages which join amino acids together, while other enzymes are ineffective.

The Uterine Cervix

The uterine cervix has been aptly charac-

terized as being "short in anatomy and long in pathology." Truly, its structure is relatively simple. The cervix is the lower segment of the uterus and partially protrudes as the small perforated dome-shaped body into the posterior roof of the vaginal tract. Its small, centrally placed, lip-shaped opening represents the only normal passageway between the uterus and vagina. The epithelium of the cervix is of two types: (1) a simple columnar epithelium similar to that of the rest of the uterus internally and (2) a stratified epithelium characteristic of the vagina in that portion seen from the vaginal approach. Compound mucus-secreting glands empty their secretions into the tract. These glands were first described by Naboth, after whom they have been named. They are frequently subject to occlusion and cyst formation, the so-called Nabothian cyst.

According to Greenhill, the commonest disorders of the cervix are (1) cervicitis and endocervicitis, (2) erosions, (3) cysts, (4) polyps, (5) leukoplakia, (6) lacerations, and (7) carcinoma. Several of these may occur together and be related to the same cause. For example, the glandular portion of the cervix is highly susceptible to bacterial infection, especially by the gonococcus, streptococcus, staphylococcus, and colon bacillus. Infection usually follows some sort of trauma such as that of childbirth, instrumental dilatation, curettage, improper cauterization with chemicals or electric apparatus, the wearing of a stem pessary, and some operations of the cervix.

Erosions

When the cervical glands are infected, the mucosa becomes edematous and often everted, that is, forced out of the cervical canal into the vaginal portion of the cervix. Thus the columnar epithelium of the canal partly replaces the squamous epithelium of the vaginal portion, giving the latter an inflamed appearance. Unlike a true erosion, which would be an ulcerous lesion formed by loss of all protecting epithelium, this inflamed surface is really a hyperplasia of new displaced epithelium and glandular tissue. These are the glands which may become obstructed and give rise to cysts. These changes increase the size of the cervix, interfere with the circulation, produce irregular bleeding

and a copious mucopurulent vaginal discharge.

Chronic Cervicitis

Chronic cervicitis is a common but far from trivial gynecologic complaint. It has been estimated that at least 50 per cent of women who have borne children have some form of chronic cervicitis. The chief symptom is leukorrhea, a whitish discharge which may vary considerable in amount and mucopurulent nature. Other symptoms may include backache or even sterility.

Is There Danger of Confusion With Carcinoma of the Cervix?

Yes, especially in the early stage of carcinoma when its appearance is not at all diagnostic. Carcinoma of the cervix is less frequent than chronic cervicitis but is far from rare. About one-third of all cancer in women, according to one authoritative source, is located in the uterus and of these, about 80 per cent occur in the cervix. Therefore any pathology of the uterus must be examined carefully and properly treated. The commonest routine test for malignancy is the Papanicolaou smear, by which cells are aspirated from the surface epithelium, fixed, stained, and examined microscopically. The earliest stage of malignancy, which is so difficult to detect, may often be seen by applying Lugol's solution to the vaginal portion of the cervix. This is based on the principle that iodine stains complex carbohydrates, and the surface epithelium of the cervix usually contains glycogen which disappears if carcinomatous change has begun. When malignancy is definitely suspected, biopsy or curettage is necessary to establish the true picture of cellular change.

Traumatic Effects of Childbirth

During delivery, the maternal genital tract may sustain considerable damage due to laceration. Tissues of the birth canal are torn when stretched beyond capacity or they may be purposely cut (episiotomy) to facilitate delivery. It is easy to comprehend why delivery can extensively traumatize the genital tract. For example, consider the cervix. The size of the cervical opening varies among women but it is usually seen as a small opening measuring somewhat less than one centimeter in diameter. At term the cervical opening must dilate sufficiently to permit the passage of the infant's head, which averages 32 to 34.5

centimeters in circumference. As the elastic limit of the cervical opening is approached, the tissues of the cervix may be torn.

Whether the wound is a ragged tear, as with lacerations, or a clean, thin line incision as may follow gynecologic surgical procedures, healing of the traumatized tissues is a prime goal in postoperative management of the patient. Elase facilitates healing of these tissues by removal of necrotic or purulent masses which otherwise could seriously interfere with recovery. The importance of maintaining a clean healthy base for healing is emphasized by the fact that women to whom Elase Ointment or Solution was administered topically for five days required roughly half the time usually spent in the hospital for recovery from postsurgical complications.

What Kind of Problem is Trichomonal Vaginitis?

Trichomonal vaginitis is a vexing problem with many women. It is caused by infection with the protozoan parasite, *Trichomonas vaginalis*.

The infection usually produces a profuse malodorous discharge, which in approximately half of the subjects is accompanied by burning and itching sensations of the affected part. Scratching of the area sets up an inflammatory reaction which aggravates the symptoms and many patients find it difficult to get their proper sleep. Furthermore the symptoms, including the nature of the discharge, somewhat resemble those of gonococcal infection and the patient may think she has contracted a venereal disease. Some patients with trichomonal infection do not have these symptoms.

Many treatment regimens have been tried with some success and most of these include the use of douches containing lactic acid or vinegar to re-establish the normally acid pH of the vagina (circa pH 4 to 4.5) and thus to interfere with the metabolism of the trichomonads, which flourish better in a neutral or slightly alkaline medium. When a patient is cured, the parasites are no longer present and the symptoms subside. In refractory cases other therapeutic measures may be employed but often there is present a source of reinfection. This could be the husband or foci infection within the patient herself. Trichomonads also invade the urinary bladder,

the anus, and various diverticula of the genital tract such as Skene's duct or Bartholin's glands.

Of What Value Is Enzyme Debridement in Trichomonal Vaginitis?

Enzyme debridement provides valuable symptomatic relief in trichomoniasis, but cannot be considered a curative agent. It must be remembered that this is an enzymatic preparation and not an antibiotic. Its action is of a proteolytic nature against the covering debris of the inflamed mucosa and the mucopurulent discharge. This debriding action cleans the infected mucosa and quickly provides relief from the discharge, itching, burning, irritation, and odor. Whether or not Elase thus alters the environment sufficiently to kill trichomonas or acts directly against these organisms, as recent work of Connell suggests, the over-all effect is beneficial. In the extensive studies cited in the basic literature a total of 659 patients were examined for trichomonads. Many had probably been infected for a long time. Regardless of chronicity, all patients treated obtained symptomatic relief.

Our First Line of Defense, The Skin

The skin is composed of many parts and serves several important functions. Of special value are the functions of regulating body temperature, moisture control, defense against bacterial invasion, warning device for extremes of temperature and indicator of the general state of health. One of the most remarkable properties of skin is its ability to regenerate and repair itself after injury.

Skin consists of two principal layers, the **epidermis** and the **corium**. The epidermis consists of an outer layer of keratinized cells, a middle layer ranging from the squamous (or flat pavementlike) to cuboidal cells, and an innermost layer of **germinal cells**. All outer layers arise from the germinal layer.

The corium contains blood vessels, sensory nerve endings, sweat glands and hair follicles, all of which are held together by an extensive connective tissue network of elastic and collagenous fibers.

The skin may be injured in a variety of ways, each presenting a problem and pattern of wound healing. For example, damage may result from cuts, lacerations, burns, ulcers, abscesses and miscellaneous infections. We shall consider these types of injuries in

more detail in order to clarify the role of enzyme debridement in healing.

Cuts and Lacerations

1. without loss of substance

When the skin is broken as a result of a cut or tear, an inflammatory exudate composed of fibrin and cells is deposited along the margin of separation. Shortly thereafter, the clotted material becomes vascularized by extension of surrounding capillaries into the mass. Tissue-forming cells infiltrate the area and build fibrous connective tissue along the fibrin scaffolding, eventually replacing it. At the surface of the wound, epithelial tissue proliferates across the opening from the cut edge as ice forms on a pond. In this manner, the wound is closed at the top by epithelial tissue and beneath the surface by fibrotic tissue.

2. with loss of substance

This type of wound is like taking a divot on a 9-iron shot except that the turf is not replaceable. The wound cavity is filled with inflammatory exudate as before, and the fibrin scaffolding is set. The fibrin mass is revascularized and granulation tissue develops displacing the scaffold. At this point, cells which form connective tissue invade the area and proliferate in such abundance that granulation tissue is virtually squeezed out together with the extensive newly formed capillary system. At completion of the healing process, a fibrotic scar marks the site of the original wound.

Burns

Burns may be classified according to the depth of penetration into the tissues. First-degree burns are marked by damage to the epidermis with hyperemia and vesication; second-degree burns involve dermis as well as epidermis with varying degrees of damage to sebaceous glands, sweat glands and hair follicles, and third-degree burns destroy the entire thickness of skin.

The severity of the burn is not primarily related to the depth. For example, an extensive second-degree burn involving a large surface area may be more serious than a third-degree burn confined to a much smaller area. On the other hand, the degree of the burn will determine whether healing will leave a fibrotic scar or a new thickness of skin.

The Anatomy of a Burn

The capillaries of the skin expand when heat is applied to a given area. This permits more blood to flow to the surface of the skin for cooling. When the area is actually burned, the capillaries expand to such an extent that plasma from the blood leaks out of the vessel into the tissue spaces. This is how blisters are formed — the process is called vesication.

In first- and second-degree burns, the germinal cell layer spreads out in all directions beneath the injured surface and forms new epidermis. In third-degree burns, however, the germinal cells are destroyed so that epithelization must proceed from the margin of the wound inward. If the area involved in a third-degree burn is extensive, epithelization normally would require months or even years. Meanwhile many inflammatory processes would form giving rise to massive scars. For this reason, skin grafts are usually applied to the surface of such burns.

The Physiology of a Burn

The systemic effects of burns are very important. When the burn covers a large area, the patient may die within twenty-four hours of shock. If death does not occur, toxic symptoms develop such as delirium, vomiting, bloody diarrhea and circulatory failure. These symptoms are probably due to absorption of toxins from the burnt surface. A deep but limited burn may be shut off from the general circulation by local thrombosis, in which case general toxic symptoms fail to develop. Because of the great out-pouring of plasma into the tissue spaces, a marked concentration of red blood cells occurs in the blood vessels leading to circulatory failure and oxygen starvation of the tissues. Fluids are indicated in order to replenish the volume of plasma lost from the blood vessels.

Treatment of Burns

Treatment depends on the extent and severity of the burn. In more severe burns, shock must be counteracted. According to Christopher, "The volume of plasma filtrate lost into a burn wound and the rapidity of its loss are so great that measures must be taken promptly if the patient is burned over more than 10 per cent of the body's surface. If 20 per cent of the body's surface is burned, a volume as large as the normal plasma volume may be lost into the wound in a

space of eight hours." Replacement of fluid and plasma is therefore necessary.

Severe burns require grafting but before this can be undertaken, the wound has to be free of slough because slough precludes proper nutrition of the graft and harbors bacteria. "Spontaneous debridement of slough requires three weeks or longer and inevitably leaves a granulating base. Granulating fibrous tissue leads to scarring and contractures. If infection is rampant in the granulations, further delay of grafting is occasioned until infection is controlled." (Christopher) Enzyme debridement has been used successfully in second- and third-degree burns to remove from the surface of the wound the adherent exudate, which otherwise would provide a source of nutrient media for bacteria. In the surgical wards of St. Vincent's Hospital in New York City, Dr. Connell has in the past treated open burn wounds prior to surgery with either dry dressings or with continuous irrigation of the dressing with saline or germicidal solutions. Skin grafts were then applied to these contaminated wounds. The use of Elase has considerably reduced the waiting period for grafting and increased the percentage of successful grafts.

Ulcers

The ulcers for which enzyme debridement is recommended are those found on the surface of the body in contrast to internal lesions such as peptic ulcers. Anatomically, the two types of ulcers have much in common, but Elase being a topical product must not be administered orally or parenterally. These surface ulcers are also called indolent ulcers and may be defined as chronic necrotizing lesions with a fairly even contour and a grayish-yellow or purpleish-red base. A seropurulent material with a characteristic foul odor exudes from these lesions. They are frequently situated on the lower part of the leg and are usually surrounded by discolored thickened and hardened skin. They tend to grow larger rather than to heal spontaneously.

Indolent ulcers may be subdivided into the following familiar categories:

1. **Varicose Ulcers.** These ulcers are associated with venous congestion or stasis (varicose veins). These varicosities occur most frequently in the superficial venous passages of the leg. Of the several contributing fac-

tors, the upright posture of man in his evolutionary ascent has placed a heavy strain on this system of saphenous veins, which unlike the deeper veins of the leg do not have the support of surrounding muscles in forcing blood against gravity toward the heart.

Varicose veins are progressive, producing venous insufficiency which affects the overlying skin. Atrophy, pigmentation, and hardening make the skin susceptible to ulceration at this site. The immediate cause of ulceration may be slight trauma or thrombosis of a cutaneous vein.

Varicose ulcers may be superficial with soft edges, healthy granulations, and a marked tendency to heal, or they may be greatly inflamed with a hard margin and a glassy pale or greenish necrotic base and may be resistant to treatment.

2. **Ischemic ulcers** are those due to ischemia, a condition marked by a deficient blood mainly from local arterial insufficiency. The following are common types of ischemic ulcers:

A. **Arteriosclerotic ulcers** occur on the extremities of patients with advanced peripheral arteriosclerosis and are usually the result of local anoxia following obliteration of the arterioles by thrombosis.

B. **Diabetic ulcers** are arteriosclerotic ulcers in diabetic patients. Diabetes mellitus hastens the arteriosclerotic process and favors the spread of infection or precipitation of arteriolar thrombosis with ulceration even with light physical, chemical, or thermal trauma to the skin.

C. **Decubitus ulcers** or bedsores result from sustained pressure over bony prominences as may occur in bedridden patients. The generally poor state of health of the patient undoubtedly contributes. Such ulcers begin as areas of ischemic necrosis, become infected, and destruction of tissue continues.

3. **Trophic ulcers** tend to occur in parts which have lost their sensory nerve supply. Again, slight trauma is usually sufficient to induce formation of an ulcer which usually becomes infected and fails to heal spontaneously. Such an ulcer is illustrated in the basic literature, in which the patient had suf-

fered complete transverse myelitis several years previously.

4. **Infectious ulcers** are those initiated principally by infection.

5. **Malignant ulcers.** An indolent ulcer which has been present for many years may suddenly become malignant and threaten the life of the patient. It is now a surgical problem. Such changes, however, further emphasize the importance of clearing up these chronic lesions as quickly as possible.

What Is the Main Difference Between Healthy and Unhealthy Ulcers?

A healthy ulcer or healing sore is distinguished as having a floor covered with firm pinkish-red translucent granular tissue with an overlying surface of exudate containing a few pus cells. The surrounding surface is normal except for a slight degree of redness.

An unhealthy ulcer is marked by failure of healing. An ulcer may remain unhealthy because of unfavorable local or general conditions of which bacterial infection and defective circulation are the most important.

When bacterial infection is the important factor, the base of the ulcer has an angry appearance and is bathed with thin yellow pus and the edges are ragged and irregular due to continuing tissue destruction. Discharge from an infected ulcer is profuse and offensive and the surrounding parts are hot, red, and swollen with the result that repair cannot take place.

When defective circulation is the important factor, the base is covered with soft, swollen granulations known as "proud flesh." This form of ulcer is due to the tissues becoming waterlogged or endematous. In this condition the tissue lose much of their resistance to infection and trauma, to such an extent that the surface may actually necrose. This type of ulcer will not completely heal until the underlying circulatory disturbance has been corrected.

How Do Abscesses, Sinus Tracts, and Fistules Compare With Ulcers?

An **abscess** is a localized pocket of suppuration. Suppuration is a process whereby dead tissue in an inflamed area undergoes softening and liquefaction and the fluid thus formed is pus. Suppuration may be caused by pyogenic bacteria or their products and also by certain chemical irritants. Necessary parts of the suppurative process are (1) ne-

crisis, (2) presence of leukocytes, (3) digestion of dead material by proteolytic ferments. If the protective mechanisms of the body-leukocytes, phagocytes, and proteolytic ferments — succeed in walling off the process, it may clear up spontaneously, but if these natural factors are inadequate, the abscess grows and tends to break out into an area of the least resistance.

The path formed by an abscess in its effort to discharge to a free surface such as the skin is known as a **sinus tract**.

If the abscess discharges simultaneously into both a skin and a mucous surface, the path is called a **fistula**.

When an abscess reaches the surface, the overlying tissue becomes necrosed, forming a slough and when the slough is discharged an open sore or **ulcer** is produced. This is the usual fate of an abscess and the resultant ulcer is the "healthy" type in that its floor is covered with pink granulation tissue. Some such ulcers are unhealthy and fail to heal spontaneously because of continued infection or defective circulation. These latter we have already discussed as being the type for which Elase is most useful. As we have noted previously also, they may arise independent of any abscess.

Hematomas

The word "hematoma" literally means "tumor of blood." A hematoma is an accumulation of blood which promptly clots after having escaped from the circulatory system into the tissues, usually during an operative procedure or as a result of trauma. They may be subcutaneous or more deeply situated. Inasmuch as clotted blood is basically composed of fibrin, cells and platelets, an enzymatic agent effectively softens the clot so that it may be aspirated and the tissue space irrigated to facilitate healing.

Debridement and Debriding Techniques

For many years, the consensus of leading surgical opinion was that debridement of wounds should be accomplished with the least possible loss of tissue. The value of early and complete debridement gained favor during World War II and the Korean conflict. Almost every casualty admitted to a forward hospital had an open wound and some degree of infection or contamination. Concluding on the vast experience of many surgical teams in the European Theater of Operations dur-

ing the second World War, Cleveland observed that "paradoxically, the surgeon who was most radical in the debridement of war wounds was really practicing conservatism." Significantly, the morbidity and mortality associated with wound infection underwent a sharp decline in World War II and in the Korean campaign as compared to the first World War, and much of this improvement was due to better debridement.

Enzymatic Debridement — For the sake of discussion, enzymatic debridement may be classified into three categories according to the type of material to be used. These materials include proteolytic enzymes such as fibrinolysin, trypsin, chymotrypsin and papain; enzyme activators such as urokinase and streptokinase, both of which are seen to stimulate production of the patient's own fibrinolysin; and noxious materials which will provoke a pyrogenic reaction and at the same time liberate large quantities of endogenous fibrinolysin. In all of these categories, it should be noted that the final step is proteolytic action in response to administered proteolytic enzymes or activation of the pro-enzyme system.

Soaks. — Soaking in solutions of various salts or in plain water is used as a means of facilitating debridement. This is similar in some respects to going swimming and staying in the water for an excessively long time. The greater the period of time spent in the water, the more tender skin becomes. This is most noticeable on the hands where calloused areas have become softened. This softening of calloused areas is somewhat analogous to debridement. This method of debridement is most often employed in treatment of leg ulcers and sailor's skin in which the manifestations of restricted circulation or over-exposure to the elements are limited for the most part to the skin.

What Is A Loomis Unit?

One Loomis unit is that amount of fibrinolysin which will dissolve 1 ml. of a 0.3 per cent fibrin clot in 120 seconds under controlled laboratory conditions. These conditions are 45° C., and the reaction is carried out in an isotonic saline system buffered with imidazole to a pH of 7.2. The unit is named for the man who formulated this unit of standardization, Mr. E. C. Loomis of Parke, Davis & Company.



R_x **PHARMACY** *News*

PLAN TO MARK HISTORICAL SITES OF PHARMACY

A plan to mark historical sites of national significance to pharmacy will be sponsored by the American Institute of the History of Pharmacy. According to Dr. Eunice Bonow of Milwaukee, chairman of the Institute's Committee on Historical Markers, the program will provide permanent reminders to the public and to pharmacists of some of the most notable achievements in American pharmacy.

The Institute proposes to foster erection of historical markers to draw attention to the national import of basically three general types

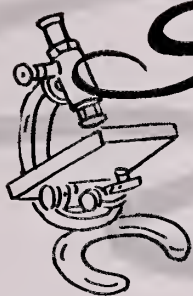
of sites: (1) discoveries of pharmaceutical significance; (2) the founding of institutions or organizations of pharmacy; (3) outstanding pharmaceutical personalities — their birthplace, residence, or place of practice.

An example of each type of site that might qualify, according to Dr. Bonow, would be the place where streptomycin was discovered, where the first American association of pharmacy was founded, and where William Procter, Jr. was born or had his pharmacy.

To carry out the proposed program for selecting promising sites for historical markers, the Institute Committee on Historical Markers will consider all recommen-

dations filed, before February 1, 1961, on special application blanks available from the American Institute of the History of Pharmacy, 356 Chemistry Building, Madison 6, Wisconsin. After approval, the Committee will submit the recommendations to the appropriate agency for historical markers in the area in which the marker is to be erected.

AIHP offers its cooperation to the local or state pharmaceutical group sponsoring the marker, in preparing a text for the marker and an appropriate dedicatory program. Dedication ceremonies will be held at the site of the marker with the cooperation of the sponsoring group.



Scientific

P A P E R

SOCIALIZED MEDICINE A Begnign or Malignant Growth?

**Denis R. J. George
Montreal, Canada**

It was not until after I accepted the invitation to address the Western Conference that I was informed that the sub-theme for today was "Reason."

It was not until I started to exercise my Reason that I began to realize what I had let myself in for in agreeing to address such a distinguished audience on a subject so close to your hearts.

As stated by Professor Hayek in his book "The Constitution of Liberty," Reason is undoubtedly man's most precious possession. Unfortunately, however, we do not always exercise our Reason as intelligently as we might, and this is particularly true in the field of Socialized Medicine.

In this particular field decisions which might have had their origins in Reason tend to develop in emotion. Furthermore, we often delude ourselves with the thought that because the majority have voted for a particular objective, the principles underlying that objective must be right. A majority vote is definitely no criterion for principles. In the same vein, how many of us make the excuse that there is no point in using our Reason, because the majority will not accept our con-

*Presented at the Western Conference of Pre-paid Medical Service Plans at Winnipeg, October 27, 1960.

clusions? Conversely it is often difficult for us to accept someone else's reasoning.

I am proposing to look at the subject of my remarks by examining the question "Who, if anyone, wants Socialized Medicine?", and, if it is felt that it is not necessarily in the interests of a province, state, or country, to introduce socialized medicine, what can be done either to prevent it, or to mitigate the less desirable of its effects? Although this is something which I will deal with in more detail later on, I feel that the fundamental issue of socialized medicine is one of the Welfare State versus the idea of Christian Charity. In spite of certain criticism levelled at doctors, there is still a great deal of Christian Charity within the profession. We have heard this expressed as the Robin Hood principle, in that there is a kind of self-run socialized medicine in effect, where low income patients are not expected to pay much, sometimes nothing at all, and where high income patients pay much more than the average. This type of socialism cannot be replaced by the welfare state with the same economy to our society.

I am proposing to talk specifically in the first instance on the position we find ourselves in Canada, but I am going to draw on the experience of other countries who have introduced socialized medicine and I think that quite a high proportion of my comments will apply to the United States. I am under no illusion, however, that I am going to please everyone with what I say.

Some form of socialized medicine is, of course, already in force in every province of Canada. Free mental and t.b. care, polio shots, or other similar services are presently available. To avoid confusion, therefore, I am going to refer to "State Medicine" throughout my remarks whenever I mean a medical programme providing near comprehensive care, membership in which is compulsory. It follows that such a programme would be under the control of the State.

I would first like to consider whether the population as a whole wants State Medicine.

I think that if you were to ask any typical cross-section of the community whether they would like state medicine, the majority would undoubtedly answer "yes." This has been proven to some extent by recent happenings in Saskatchewan where the popula-

tion has voted for a government which has promised a socialized medical programme. Even though it is debatable whether this particular issue influenced greatly the vote actually cast by any particular individual, it is the general impression of those in a position to know that the majority of the population in Saskatchewan is willing to accept state medicine. I have grave doubts, however, whether a great number of those people whose answer was "yes" to state medicine would have given the same answer so readily had they thoroughly understood the full implications of such a programme.

I had the opportunity quite recently of talking to a prominent leader of labour and I asked him whether he agreed with state medicine. His immediate reaction was a firm "yes" and he went on to say that such a programme would benefit those people who cannot afford the best types of medical care. I then suggested that if it were possible to ensure good medical care for those people who were unable to afford it, was it reasonable to extend a compulsory State plan to those people who could afford good medical care, bearing in mind the fact that the overall costs of providing medical care would undoubtedly rise. His second thoughts were perhaps it was not, economically, in the country's interest to introduce a compulsory programme applicable to all citizens rich and poor. This illustrates the fact that so much has been said in favour of state medicine, and relatively so little about its shortcomings, that until people are sufficiently well-educated in the pros and cons of such a programme, the general population is not likely to object if politicians, maybe for their own ends, introduce state medicine.

In Canada at the present time, free medical care is available to all those people who cannot genuinely afford to pay for it. I am not saying that the present system is perfect, and, as stated yesterday, the stigma of charity is often attached to it. However, given a system whereby the needy are granted the best possible care, either free or at nominal costs, with or without Government assistance, I do not think that it is necessary to include everyone under that large, very Black umbrella: the Welfare State.

I would now like to consider whether the medical profession favours state medicine and

I remind you of my definition of state medicine. I do not think that there is any doubt in anyone's mind here today as to the answer which would be given by the great majority of doctors. It would be an emphatic "no." Certainly the introduction of state medicine would increase the remuneration of certain doctors. Conversely, it could reduce the income of certain specialists and above-average doctors. Generally, however, the average income of THE PROFESSION would increase; at least at the inception of the plan.

It is axiomatic that, in any field, leaders are required to open the way for an increase in knowledge and the raising of general standards. This is particularly true of the medical profession. Unless we can encourage outstanding men to pursue their research untrammelled by the red tape which bureaucracy would impose through state medicine, progress in the improvement of medical care could well be retarded.

Furthermore, human nature being what it is, and I am certainly not decrying it in this instance, there has to be an incentive for new men to join the profession. When a young person is considering what field he should enter, the possibilities of advancement with consequently higher remuneration have a great effect on the decision. Certainly there will always be a small number of people who will practice a profession irrespective of the material rewards, but this unfortunately, is only a small group and certainly not sufficiently large to provide all the doctors that are required. An illustration of this is the tremendous difficulty facing all church denominations in encouraging men and women to join the clergy.

What is perhaps much more important, however, is whether state medicine would impair doctor-patient relationships. This would depend on the nature of any State plan, especially in regard to the manner in which doctors were remunerated. This is a subject which, as a layman, I do not want to discuss. At the least, however, in my opinion, a State plan would not improve doctor-patient relationships and I think they would, in fact, seriously deteriorate.

I am now going to pose another question to which the answer is again really quite obvious. "Do you service plans, and, of course, the commercial underwriters, want state

medicine?" I think, however, that there may be a difference between the service plans and the commercial underwriters in this regard. By commercial underwriters I mean of course the insurance companies. Such companies are, in most cases, in the business of underwriting to make money. They are commercial enterprises, and to the extent that an area of coverage is removed from their field, their profits will be reduced. Their answer to my question would undoubtedly be "no."

Turning to the service plans, the answer would, I think, still be the same, but there is a further consideration which might influence the decision of certain people. It is my understanding that the original basic concept of the service plan was to help both the patient and the doctor. The patient would be able to obtain the best medical care without the embarrassment of having to face, periodically, large bills which he might find difficult, or even impossible to pay. The doctors stood to gain in that they knew that they could provide the best of medical care without having to worry as to the patient's ability to pay, and in practice they have had removed from them the difficult task of trying to collect bad debts. To repeat myself, the concept was, therefore, one of providing good medical care at reasonable cost to the patient without restricting his choice of doctor.

Is this concept any different from that of a State medical plan? I think it is. But the politicians would have us believe that it is not.

However, the service plans themselves have to decide whether they want State medical plans and I submit that their decisions may to some extent be influenced by whether they consider themselves as commercial underwriters in a somewhat similar position to the commercial insurance companies, except that they are non-profit organizations, or whether they are the **agents** of the profession in providing good medical care.

We now turn to what is perhaps the most pertinent group of which to ask the question "Do you want state medicine?" This group is, of course, the politicians. It has always been recognized as a good vote-getting promise for a political party to state that it will provide good medical care under a State Welfare Plan. One would like to think that the politicians would not introduce a plan,

even with its vote-getting potentialities, if such a plan were not in the interests of the country as a whole. This, I am afraid, is not always the case. For the moment, however, I want to leave the question of whether or not state medicine is good for a country, economically or morally, as this is a very important subject in itself. For the next few minutes, therefore, I want to consider some of the political reasons behind the introduction of a state plan.

You may have noted that in recent years the socialists have not used some of their old arguments in favour of state medicine. One of the most important of these arguments was that if the members of a country were made more physically fit, it would increase the productive capacity of that country. This undoubtedly was true, but I am wondering whether these improvements have not reached their maximum, or, at least, are closely approaching the maximum.

It is true that advances in medical science have ensured that a greater number of babies live to reach productive years. It is true that deaths arising out of childbirth have been so reduced that the female members of the population are living to the end of, and beyond, their reproductive years. It is true that a great number of individuals who would have died in their 40s and 50s have been kept within the working force until retirement at a much later age than before. It is questionable, however, whether any further marked improvement can be achieved along these lines.

Looking at it in a slightly different way, I would like to quote to you some remarks made recently by Dr. Lees of the University of North Stafford in England. He has stated, "It is frequently said that more hours of work are lost through sickness than through any other single cause. This is true, but it turns out on examination to mean no more than that the other causes are relatively unimportant. Over the last five years, 3 million days a year have been lost on the average through strikes and 25 million through sickness. But the total of working days per year for the economy is around 5,000 millions. Thus, if by some miraculous act of medical advance, all absence from work through sickness were eliminated, the total labour force would be increased by a once-of-all one-half

of one per cent. And for reasons that are obvious — reorganization of the labour force and the like — we could not expect a proportionate increase in output. So there is little hope here that large increases in health expenditures would pay for themselves in increased output."

I do not know the source of Dr. Lees' figures and they apply, of course, to Great Britain. It is very probable, however, that similar statistics in this country would produce somewhat similar results.

All this leads me to the question of the reason for politicians wanting to introduce state medicine. I feel that they may not always be exercising their **reason** and that they fall back on the humanitarian excuse: that no one who cannot afford medical care should be denied such medical care. I do not think that anyone would disagree with this, but I submit that there may be better ways of achieving this objective than through a compulsory comprehensive state medical programme.

The introduction of provincially-sponsored hospital care insurance programmes throughout Canada may be an useful pointer to what could happen in the field of medical care. You are fully aware of the introduction of various forms of provincial hospital care insurance programmes by the three Western Provinces of Canada, commencing in 1947 with the province of Saskatchewan. These three Provinces ran hospital plans for a considerable time without federal aid, but because of increasing pressure on the Federal Government, and for other political reasons, the Liberal Party, while in power, introduced legislation which culminated in the Hospital Insurance and Diagnostic Services Act which became effective July 1, 1958. Under this Act, the Federal Government makes substantial contributions to provincial government hospital care insurance programmes.

The method of implementation is of interest, inasmuch as the Federal Government turned to the provincial governments, which in Canada are responsible for the health and welfare of their citizens, and said "We will pay approximately $\frac{1}{2}$ of the costs of a hospital care programme if you put in a hospital plan in your province that meets our requirements. Our requirements, in general terms, are that you must make the hospital

plan available to all citizens, rich and poor; you must provide adequate hospital facilities, and you must guarantee that once an individual is qualified for benefits under the plan you must provide free and unlimited hospital care at ward level."

These conditions were not particularly unreasonable, but they placed several provincial governments in an embarrassing position. Some provinces certainly did not have sufficient hospital facilities to be able to provide adequate care to all citizens, but, if its government had decided not to accept federal aid by implementing a hospital care plan, it played into the hands of the opposition party who could come back to the electorate and say "Why should our residents be paying taxes to support hospital benefits for residents in other provinces?" There was, therefore, a subtle coercion on the part of the Federal Government to make provincial governments introduce a hospital plan, whether or not a particular province wanted such a plan, was ready for such a plan, or whether it could afford such a plan.

What I am trying to demonstrate is that what may well have started out as a reasonable thing in the western provinces, developed into a political football when it came to introducing hospital plans in the other provinces. I am desperately afraid that something similar may happen in regard to medical care. If one or two provinces introduce state medical care programmes and are ultimately successful in obtaining federal help, the Federal Government will be morally obliged to extend such financial help to the other provinces, who in turn may feel unable to refuse such help because of political, and I stress the word "political," reasons.

In fact, this is what is happening to some extent in the United States, inasmuch as the recent Bill setting up Federal and State subsidies for the medical care of needy persons aged 65 and over provides for Federal payments to any State which sets up a medical care programme that is approved in Washington. The amounts of the subsidies are so small, however, that they are not likely to have the same political effect on the States as did the Federal payments in Canada towards hospital care. The important point to realize is, however, that national state medicine could gather momentum like a snowball so

that action must be taken **now** by the medical profession to put its house in order.

I have until now been considering the reactions of various parties to the question "Do you want State medicine?" I would like to turn to another now, and perhaps even more important, question — "Can the country afford state medicine?"

By "afford," I am not restricting myself to only the cost in dollars and cents but also to the effect on the morale of the citizens in general.

There was, of course, another reason that the old socialists used to use in connection with the introduction of socialized medical programmes, which I did not mention earlier.

This reason is fundamental to the whole of socialist philosophy, and does not refer only to the introduction of socialized medical benefits. This is the dogma of the redistribution of wealth. I do not wish, nor do I consider myself sufficient of an authority, to discuss this vast question of the redistribution of wealth. Professor Hayek treats this matter very comprehensively in his book, "The Constitution of Liberty" and I feel that it would be wrong of me to try and put forward to you some of his arguments.

I do, however, want to make the practical point that it is becoming increasingly difficult for government to tax the rich to feed the poor. The egalitarian trend which has developed over the past years has led us to the position where relatively few rich persons remain to pay heavy taxes on behalf of the poor. It follows, therefore, that the introduction of a socialized medical programme is only going to benefit, financially, relatively few people.

In other words, nearly every citizen will, in the long run, have to pay the full cost of any medical care that he receives, plus something on behalf of the few who cannot afford proper medical care.

I believe that the overall cost of medical care will be increased if a State plan is introduced. Certainly, as I have mentioned earlier, the average income of doctors will rise at the inception of the plan, and the greater part of any increases may well be due to the provision of care which, in many instances, is unnecessary.

Medicine is fundamentally different from any other human requirements. We can only

eat so much, live in so many rooms, drive one car at a time, and so on. But there is no theoretical limit to the amount of medical attention we can demand. I emphasize the word "demand" rather than require. If we are to believe the psychiatrists, at least, there is no such thing as a perfectly fit human being, and, therefore, our demand for medical care is dependent to a large degree on our own assessment of our mental and physical fitness.

One might argue that in our democratic egalitarian society all of us should be treated equally. Because President Eisenhower has a right to a full-time physician at his side constantly, does it mean that each one of us, too, is entitled to a full-time physician? None of us would, I think, demand a full-time physician for our exclusive use, but it does illustrate how much medical care each of us could expect or demand.

Under our present system, the limit on the "luxury" medical care which we receive is, to some extent, influenced by our ability to pay for such care. Under a State welfare plan, someone must control the amount of care that we can have, and this someone must be the government. This is exactly what has happened in regard to socialized hospitalization, as the government has full control over the amount of hospital care provided by limiting the number of hospital beds available.

In due course, therefore, under state medicine, the State would either have to limit the number of doctors, because there will always be a demand for them, or restrict the care provided.

This leads me to consider the determination of the doctors' remuneration under a State plan. This consideration is valid whether any socialized medical programme was financed on a fee-for-service basis or a per-capita basis. As you may be aware, the doctors under the British National Health Service Programme are remunerated on a per-capita basis according to the number of individuals they have on their list. A maximum is set for the number of patients that a doctor can have on his list. This means that a doctor in the first place is paid a fixed amount irrespective of the amount of service he provides to his patients, and, secondly, there is a limit to the income he can derive from the State plan. I leave you to draw your

own conclusion from such a state of affairs.

Dating from shortly after the introduction of the plan in Great Britain in 1948, the medical profession has continuously been objecting to the levels of remuneration, and the Government has been accused of down-grading the profession by restricting remuneration. A Royal Commission was set up two or three years ago to investigate the level of remuneration for doctors and dentists under the National Health Service, and the Commission has recently brought down its report. I heartily recommend the reading of this report by all those who are interested in this field, as it contains a great number of interesting matters and statistics.

One of the major points in the Report is, however, that it is extremely difficult to set a yardstick by which to judge the remuneration of the medical profession in the United Kingdom. Under a free enterprise system, a doctor, like any other individual, is, by and large, paid what his fellow countryman think he is worth. In other words, the age-old principle of supply and demand is followed.

Where a government has complete control over the supply and demand of doctors, there is no normal economic yardstick by which to measure proper remuneration. This is true in regard to the general level of remuneration of the profession and is even more true in regard to the determination of the remuneration of particular individual doctors.

As I mentioned earlier, the average income of doctors would almost certainly rise immediately after the introduction of a state programme. The trouble, from the doctors' point of view, is however, that they would be at the Government's mercy in regard to increase in remuneration to meet increases in the cost of living, and increases in costs arising out of improving techniques. If the overall cost of the state medical plan needed to be curtailed, an obvious device would be for the Government to hold down doctors' remuneration.

One of the investigations made by the Royal Commission in Great Britain was to compare doctors' salaries with those received by other professions, such as lawyers, accountants, yes, and even actuaries! Based on this comparison recommendations were made to the Government, but with the suggestion that a permanent body be set up to keep doc-

tors' remuneration constantly under review. It is of interest that the Government has had to use the comparison of the remuneration of other professions which operate under the free enterprise principles in order to establish doctors' salaries. What happens if all professions come within a socialist programme of some sort or another?

Turning once more to the economic aspect of state medicine, I would like to quote you some figures relating to the British National Health Service. It was estimated when the plan was established in 1948 that its cost in the first year would be of the order of 170 million. Actually, the cost in the first full year amounted to 400 million, and the most recent year is in the neighbourhood of 750 million.

Even allowing for such things as inflation, I think one is entitled to draw the conclusion that the overall cost of medical care in Great Britain has increased, even though the British Government has exercised a fairly tight financial control, and has also introduced certain deterrent and co-insurance charges. It will be appreciated, of course, that the British National Health Service includes hospital care, but it may also be significant to point out that during the years 1948-1958 no new general or mental health hospital was built in Great Britain due to the control on financing exercised by the government. Similarly, the amount of money made available to medical research was greatly restricted.

To quote you one or two more general statistics, the evidence suggests that each person increased his calls upon the general practitioner by about 15%. Between 1948 and 1953, 26 million pairs of spectacles were supplied to a total spectacle-yearling population of 19 million persons. I could quote a number of such statistics, but, if you are like me, it is difficult to take them all in and, in fact, too many can get to be quite boring.

It is only fair to state, however, that there are certain people who believe that the introduction of the National Health Service has not increased overall medical costs in the United Kingdom.

I would like to quote some remarks of Professor John Jewkes of Oxford who was, incidentally, a member of the Royal Commission on the remuneration of doctors and dentists. These were made by him in a lecture

delivered to the Sixth Institute on "Freedom and Competitive Enterprise" in Claremont, California, last year.

"There is no evidence that the health of the British people in general has improved more rapidly than in many other countries since 1948. It seems to be widely accepted outside Great Britain that the standard of performance of the British medical profession and its achievements in the field of research are still impressive but that these efforts have undoubtedly been hampered by the lack of new hospital facilities and funds for research.

"There can be no doubt that a considerable section of the British medical profession is dissatisfied, if not disillusioned, with the National Health Service and the manner of its operation. The grounds of this dissatisfaction are varied. Many general practitioners feel that far too much work is thrown upon their shoulders and that the quality of their service is thereby being endangered. It is generally conceded that the Health Service has created a hiatus between the general practitioner and the specialist which is not good for the efficiency of the profession as a whole. On many matters, and particularly on question of remuneration, doctors believe that the Government has used the powers which it possesses as a virtually nonopolistic employer, to treat the profession in a peremptory and domineering fashion. Whatever else the National Health Service may or may not have done, it has not created a contented profession."

Certain statistics have also been produced at various times which relate to the degree of inflation suffered by a country with the degree of welfare statism. There is some correlation between these two, but I do not propose to quote the figures as other factors enter into the overall picture. It can be argued, however, that it is more than coincidence that those countries which, since the war, have introduced a high degree of socialization have suffered the highest degree of inflation.

Another very important factor in considering socialization is the effect on the morale of individuals. This is a complete subject in itself, and Professor Hayek developed this thoroughly yesterday, but it is my firm opinion that the general whittling down of the area within which a person has to exer-

cise any individual judgment, or accept individual responsibility, is bound to be bad for any country. It is very disturbing to read on how many occasions management, and labour alike, in this country state that they are looking to the Government for a solution to their problems instead of trying to arrive at a solution by their own efforts. Furthermore, the continued encroachment of Government into individual liberties has reached frightening proportions.

I could talk for a long time on the effect of state medicine on the economy and on the citizens themselves, but I feel that I have said enough to indicate that the people of any country should be made aware of some of the pitfalls in accepting state medicine, before being asked whether they should be committed to pay for such a programme. Only a limited percentage of the national income can be diverted to medical care. Such a percentage is, of course, hard to define, but it must mean that if too much money is spent on medical care, other worthwhile projects have to be restricted. This, for example, would include such things as roads, reforestation, and other similar projects.

There is also a fundamental difference between the provision of hospital care and medical care. It is not easy to move a hospital from Manitoba to the States, say, where state medicine has not yet arrived, but it is relatively easy for a doctor to so move. Furthermore, a doctor has a conscience and can exercise charity and personal judgment but it is extremely difficult for a hospital to do this. It may be interesting to apply Gresham's Law in this regard. You are all, no doubt, familiar with Gresham's Law, which, in essence, says that bad money drives out good money. It refers to the coin clipping and other forms of counterfeiting indulged in by governments which always drives people into hoarding good money. Will the underlying principles of this Law apply to doctors? I think it may well do.

There is another fundamental difference between coverage for hospital care and coverage for medical care. The former can be considered a form of insurance inasmuch as hospital confinement is a comparatively rare occurrence for most people and is catastrophic in nature. Someone might argue, therefore, that government intervention was required

to help provide a proper insurance programme for hospital costs.

Medical care is very different. Certainly the costs of certain types of medical care could have a catastrophic effect on an individual's finances if proper insurance provision had not been made therefor, but the normal run of home and office medical care does not come within this category. Service plans have recognized this by calling themselves pre-paid medical care plans. There is no real insurance required in everyday medical costs. To take this to, perhaps, its extreme, it is the same as saying that a budget to pay for the Sunday roast is insurance. If there is nothing catastrophic to insure against in everyday medical care, what is the necessity for government intervention? Would the government want to introduce a State Sunday Roast Plan? I am not saying, of course, that there is no necessity for any insurance. It is required for the very expensive serious illnesses. I am trying to demonstrate that there is a difference between hospital care insurance and prepaid medical care.

One last point in regard to state medicine that I would like to make is that sometimes this particular field is dramatized beyond the facts. Even if we accept the theory of providing as much help as we can to our needy citizens, is medical care the most important from an economical point of view? If a breadwinner is taken seriously ill, it is possible that the doctor's bills will be a very small portion in the total tragedy of the family, both financial and otherwise. The loss of earnings of the breadwinner may imperil the home itself, as well as the care of wife and family. Surely there is a great deal to be said in applying any funds which a government deem to have available in protecting the earnings of an employee who is unable to work because of sickness. This could be done by an extension of unemployment insurance to cover loss of income due to illness. Furthermore, this is a federal matter which could be controlled by the Federal Government, whereas socialized medicine cannot, as it is a provincial matter.

Despite everything I have said so far, there may be those among you who will say that we have to face facts, and that more socialized medicine, in some form or another, is

inevitable. It was stated many times yesterday that the public wants state medicine and, consequently, they will get state medicine. I am not sure that state medicine is inevitable but we should, perhaps, take a few moments to look at various types of state medical programmes and see whether some would be more acceptable than to others.

It seems that as soon as anyone mentions state medicine on this continent the immediate reaction is to consider the British Plan. This is dangerous. The British Plan is only one of many, and there are not many others, if any at all, which are so comprehensive in scope.

A great number of state plans limit the type of service covered and many of them require some co-insurance payment by the patient. For example, in France, the state pays 80% of an approved schedule of fees for most types of care, with the patient paying the remaining 20%. Furthermore, in many areas, the doctors' actual charges are higher than the approved schedule of fees. The full cost of care is provided however for long illnesses and serious operations.

Similar co-insurance features appear, to quote two more examples, in Sweden and Switzerland.

The original British plan had no co-insurance features, but some had to be introduced in connection with drugs, appliances and dental care, to keep down the costs. Some form of patient participation in the cost of state plan is essential.

If State Medicine should ever be inevitable in any area, a great burden of responsibility will be thrown on the medical profession in that area. The doctors can exercise a great deal of influence both on the politicians and on the population. I feel that the profession should, in these circumstances, sit down with the politicians and both parties should act as reasonable human beings and try to work out a programme which would be mutually acceptable, and in the interests of the people. Certainly compromises would have to be made on both sides.

I do not think that the medical profession can prevent state medicine once the politicians have made up their minds. If it tries, the ultimate results may be a programme which would not be as acceptable to the doctors, or as beneficial to the population, as a

programme produced by a joint effort.

Nevertheless, I feel that many things can still be done which might delay the introduction of comprehensive state medicine, or which can lay the foundation for a more acceptable programme.

Firstly, let us consider the medical profession itself. As we are all aware, there has in the past few years been an increase in the amount of criticism levelled at doctors for the fees which they are charging in certain circumstances. Like any other profession, the medical profession has its percentage of black sheep and, unfortunately, our news media tend to publicize the activities of the black sheep rather than the activities of the majority of honest, efficient doctors.

Is there any justification for this criticism? I am afraid there is. I have occasion to see a great number of the complaints made by patients concerning excessive fees charged by certain doctors, and a high proportion of these complaints are reasonable.

From a negative point of view, therefore, the profession can reduce criticism by keeping fees reasonable, and I submit that if justifiable criticism continues to be levelled at the medical profession for excessive fees, it will be playing into the hands of those politicians who wish to introduce socialized medicine.

I should also like to refer to a report I read recently, which I am sure most of you have seen, in which the Steelworkers in the United States were considering the establishment of Group Practice medical facilities. Statistics were produced comparing the claims experience under Blue Shield Plans with that under plans sponsored by the Kaiser Foundation. The inference was clear that the Unions were considering moves to employ doctors on a salaried basis because the profession's fees were considered to be too high.

Many of you have, no doubt, read the series of articles in the current issue of an American National Magazine. One of these articles, by Edward T. Chase, points out the differences between medical costs arising out of group and individual practices. All these points should be kept in mind by the medical profession and doctors must realize that they cannot ignore everyday economics.

I know that this particular point does not have such a bearing in regard to service plans

in Canada, but, as far as insurance indemnity plans are concerned, there has been a tendency for the profession to abuse such plans, and especially major medical plans. This, in turn, has tended to have an inflationary affect on doctors' fees.

The profession can, I think, exercise a great deal of discipline over those doctors who abuse both service and indemnity plans. Patients and underwriters should not be discouraged from airing legitimate complaints before the proper medical authority, in the knowledge that appropriate action will be taken by the profession to curtail the activities of its black sheep.

The profession can further help by co-operating in the extension of care to the needy. I do not mean by this that they should apply only the Robing Hood principles, but should co-operate with underwriters and maybe governments in making available good medical care to the aged and the indigent either free or at nominal cost. A good example of such co-operation is present here in Manitoba in the Medicare programme. It has required the co-operation with the provincial government of the Manitoba Medical Association, Manitoba Medical Service, Manitoba Dental Association, Manitoba Optometric Society, the Opticians Guild, and others. I have it on good authority that the plan is working out very smoothly. I know that there are others of a somewhat similar nature in other provinces and in states south of the border.

You have been very patient with me in listening to a great deal of what you already know, and you may well be saying "How does this help us as Service Plans?" "Is there anything we can do to prevent the advent of state medicine?"

Here again, all that I have to say is certainly not new. All that I can hope is that it may stimulate some action **now** rather than later when it may be too late.

First of all, have the service plans done a good job in helping to provide medical care for the population? I think, by and large, they have.

When I started to put this speech together, I made up my mind that I would try and break away from actuarial tradition and not quote you any statistics. Actuaries are so often considered as calculating machines who

are not happy unless they are spewing forth statistics. If it were not for the fact that I can see the deadline looming up, I would have broken my promise to myself. Suffice to say statistics show that excellent progress is being made and that more and more people are having coverage made available to them. The big question mark is, however, whether coverage is being made available to everyone, and whether the right type of coverage is being made available. The latter question was dealt with by Mr. Brown yesterday and we do not have time to go into it again this morning.

It is, of course, a large subject in itself. I believe, however, that the best way of preserving a large area of voluntary medical care coverage for private enterprise is to ensure that something is done for those genuinely in need. This can be done either by the government stepping in and assuming full responsibility for the aged and indigent, or by the service plans, in co-operation with the medical profession, devising a plan within the means of the individuals concerned. There is, of course, the third alternative, which is a combination of the previous two under which the Government would pay to the private carrier part or all of the contributions on behalf of the needy individuals.

I have already referred to the question of devising a programme of benefits for the aged and indigent. As an actuary, I am fully aware of the facts of selection against an underwriter, and I sympathize greatly with those people who have to devise contracts and contribution rates for classes of individuals who we know to be poor risks. The problem is not insurmountable however.

As a matter of interest, I was talking to a service plan the other day which had recently introduced a restricted plan of benefits for its "Senior Citizens," that is, people over age 60. The response was excellent and they had even had applications from two people aged over 100 years!

I feel that the service plans, because of their close connection with the medical profession have a great responsibility to get something done for the aged and indigent. Maybe they should talk to the doctors along the lines of accepting, say, 75% or 50% of the normal fee schedule. Maybe they should also, together with the profession, invite the

government to subsidize such a programme. I cannot emphasize too strongly my opinion that once this area has been covered, there will be a much bigger chance that it can be demonstrated to the politicians that there is not need for the government to intervene in respect of the active population. There would be freedom of choice for the individual in regard to service, indemnity or major medical contracts. Quite frankly, I believe that this approach is the only realistic and practical one at the present time.

I know that an objection could be raised to this suggestion on the point that once the government has embarked on any form of socialized medicine, that the door is open for an extension to the whole population. I think, however, that we have to face facts in this regard, and the area about which I am talking is one into which governments have already stepped. As I mentioned earlier, the Medicare programme in Manitoba is an excellent example.

The government can, of course, say that it does not want to cover the expensive segment of the population without being able to re-coup something from the better risks in the remainder of the population. It is true that the government cost per capita of the aged and indigent would be higher than that of the active population, but I submit that the overall costs of medical care might well be increased to a very much greater extent if state medicine were introduced for the whole population than if it were restricted to the aged and indigent.

I am afraid that I cannot miss this opportunity of mentioning one matter on which I have quite definite views.

I know that one of the things which is dear to the hearts of the sponsors of service plans is the philosophy of community rating, and I was extremely interested to hear Mr. Denise's remarks this morning. I agree that community rating is ideal, and that it does ensure that certain groups within the population are subsidized by the better risks at more reasonable rates of contribution.

There is, however, the question of the continued existence of the service plans in a competitive market. Here, I must admit to my delative lack of knowledge in respect to the position in the United States, so that my remarks are based primarily on Canadian ex-

perience. The service plans were, in general, the forerunners in the field of comprehensive medical care coverage. They pioneered it, even in the face of being told by some insurance men that they would lose their shirts. The service plans proved, however, that the provision of comprehensive medical coverage was feasible, and I think that my insurance friends, would, if they were completely honest with themselves, admit that they jumped on the bandwagon after the preliminary hard work had been done. They saw, however, the possibility of making a dollar or two in this particular field by a much more careful selection of risk than exercised by the service plans, whose whole philosophy was to avoid such selection as far as possible.

The insurance companies developed, therefore, the rentention and experience-rating type of contract under which they were able to obtain the better-class risks. Up to the present time the effect of this policy has perhaps not been fully felt by the service plans, as there has been a sufficient number of people not previously covered to maintain new business figures. It seems to me, however, that if free enterprise remains, the service plans are going to be faced with the problem of deciding whether they are going to retain their community rating principle with a possible consequential loss of the better risks, or whether they are going to follow the insurance companies' example and experience-rate certain groups. If they adopt the latter course, I think they will get a considerable share of the new business. But it must mean that the contributions to be charged to the individual and other non-experience rated groups will increase. On the other hand, if they preserve the community rating principle they are still likely to be left with the poorer risks as the insurance companies siphon off the better-class groups, and although the interest in contributions for the poor risks will not be as high, some increase will still be necessary.

There is another matter which has been raised many times by different people. This is whether or not the service plans should strive to get the whole of the population covered. From a practical point of view, I do not think that this is possible, but apart from this, I do not know whether the medical profession itself would want its sponsored

plan to have a monopoly on underwriting medical care coverage. It is a powerful argument that if the service plans were to be sufficiently successful so as to have the great majority of the population covered, it would be playing into the hands of a government by presenting it with a ready-made system of introducing state medicine.

The competition between insurance companies and service plans has had the merit of reducing administrative costs and presenting the public with cheaper contracts. There is such a difference in philosophy, however, between the indemnity plan and the service plan, that I do not know whether it would be possible, on a voluntary basis, to persuade everyone in the population that one system is better than the other. This difference in philosophy can perhaps be best explained by considering a service plan as a system under which any increase in medical costs is automatically spread over the whole of the subscriber population, whether fit or sick, by means of increased contributions. Under an indemnity plan, if the schedule of benefits is not altered when the doctors' fees are increased, the increase in cost is spread over the sick population only. Some employers, depending on the nature of their collective bargaining agreements, prefer the philosophy of spreading increases over the whole population, while others prefer it being spread over that part which is claiming benefits.

The Service Plans can also help greatly in educating the population. This was said yesterday. I do want to make one big point, however, in this regard. I know that differences exist in the philosophies held by various Plans. I know that many plans are rigid in their outlook in that they consider their programmes are sacrosanct. I know that they do not always co-operate with one another even on large national accounts. I know that they wish to be autonomous and reserve the right to veto any other Plan's ideas. I know therefore— and as a consultant it has given me many headaches — that you are a heterogeneous bunch of *prima donnas*. I implore you therefore to get together in a much more practical manner than you have to date and get on with the job of informing the public and helping the medical profession to be seen in a better light.

Finally, I would like to say that the doctor-

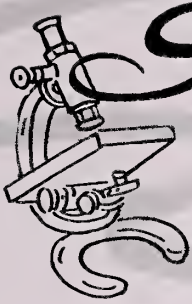
sponsored plans can render a very valuable service by exercising a strict claims control. They have the machinery but, unfortunately, it is not always operated as efficiently as it might be. It was my original intention to discuss recent happenings in the field of socialized medicine in the United States. I feel, however, that many of you know more about this than I do, and that I have already said enough. Suffice to say, that the general principles I have referred to in regard to Canada apply equally to the United States. I would say, though, that I believe the approach of providing for the needy amongst the aged along the lines now being proposed is sound. I know that many of you are watching this country with a keen interest and all I can hope is that you will profit from our mistakes.

In summation, therefore: I feel that the general population would accept state medicine, if introduced, but that there is room for both the medical profession and the service plans to try and educate people to the fact that a comprehensive state medical plan may well increase overall costs without improving the level of medical care. The day of "something for nothing" has gone — —if it ever existed. Such publicity will be an appeal to the reason of thinking individuals. I hope, however, that I am wrong in my feeling that so many people today have got out of the habit of exercising that reason that the population may not permit itself to be educated.

I feel that the doctors themselves can help by co-operating with underwriters in restricting the abuse of service and indemnity plans, and by exercising discipline over their black sheep. Furthermore, the profession should not take the unshakeable stand that it cannot, in any circumstances, sit down with politicians and discuss the whole problem in a rational manner. This is an appeal to the reason of the medical profession. Here, I believe, such an appeal will not fall on such stony ground. I think that the cost of good medical care will, in the long run, be less under a private enterprise system than if socialized medicine were introduced; or at least the population will get better value for its money.

I think that the service plans, together with the commercial underwriters should take a

(Continued on Page 72)



Scientific

P A P E R

**DEPRESSION:
Its Recognition and
Treatment by the General
Practitioner
Panel Discussion:
Drs. Rodine, Bowes and Gilbert,
Aberdeen, S. Dak.**

DR. RODINE: Gentlemen, instead of presenting a formal paper at this session, we plan to do something a little out of the ordinary. We're going to have a panel discussion on the subject of "Depression: Its Recognition and Treatment by the General Practitioner."

For many years, I've been in the difficult position of trying to make some sense out of psychiatrists. It may be a simple problem of communication between our two disciplines. However, we are all physicians — we are all engaged in helping sick people to get well, and it occurred to me that a three-way discussion would be helpful and informative to all of us — not the least the psychiatrists!

In Aberdeen, we now have two tame captive psychiatrists — Dr. H. Angus Bowes, Director of the Northeastern South Dakota Mental Health Center, and Dr. James E. Gilbert, Assistant Director. Last week, in Atlantic City, at the Annual Meeting of the American Psychiatric Association, these two gentlemen presented a paper summarizing their research on depression. Dr. Bowes, shall we ask you first why you are interested in depression?

* Presented to the South Dakota Medical Association Annual Meeting, Aberdeen, May 16, 1960.

DR. BOWES: Well, Dr. Rodine, depression is the most frequently encountered psychiatric syndrome. Since I started our Mental Health Center eighteen months ago, over 25 per cent of the 700 patients seen have had depressions and almost half the patients Dr. Gilbert and I see privately have been suffering from this condition, so naturally I am interested in it. In addition to the 25 per cent mentioned of frank, obvious depressions, many chronic neurotics are suffering from secondary or masked depression and all these cases can now be treated by combinations of anti-depressant and anti-depressant and anti-anxiety drugs with gratifying results.

I have treated depressions in private practice for over 15 years and I know how futile psychotherapy alone is in these conditions. Of course, sometimes I was lucky and started to treat these depressives just when they were coming out of their depression and then psychotherapy would get the credit. Sometimes I would treat them for months or even years until the depressive phase ran its course, but generally the patient's funds or patience ran out first.

By nature, I am a rather happy and optimistic person and have no first-hand experience of other than transient depressions on the "blue Monday" variety. But I cannot listen to hundreds of case histories faltered out in lugubrious tones without realizing what a very terrible illness this can be and what a blight is cast, not only over every sufferer of this lamentable condition, but also over their families and all who come in close contact with them. Now all this can be changed and supportive psychotherapy of the simplest and most common-sense type combined with appropriate medication, can relieve these distressing symptoms in over 60 per cent of all cases seen. Indeed, as Dr. Gilbert and I wrote in a recent paper: "The torments suffered by the victims suggests to the authors of this paper that appropriate treatment should not be withheld until the progress of the disease necessitates psychiatric intervention. The minimum of psychotherapy required and the ease with which these cases can be handled would seem to indicate that depression should be recognized and treated in the setting of first occurrence,

preferably by general practitioners."¹

DR. RODINE: Dr. Gilbert, what do psychiatrists mean by depression?

DR. GILBERT: Sorrow and grief are the common lot of mankind and familiar to all of us. But depression is an alteration of the mood much more severe than the unhappiness which can be experienced as a result of even the most tragic experience. Together with the alteration of the mood, there may be motor retardation and the patient appears listless, slowed down and apathetic. Often he looks haggard and ill, with the lines of grief heavily etched upon his face. Often these patients appear much older than their stated age, and they walk with the gait of an elderly person. In other cases, instead of motor retardation, there will be excitation and the unhappy individual, although depressed, will appear over-active, anxious, tremulous and he may perspire profusely.

Many patients complain of a feeling of hopelessness about the future or maybe they will complain about obstinate constipation, a lack of desire for food, or even that food has lost its taste and that everything, no matter what they eat, tastes like cotton wool. Sometimes a severely depressed person goes to sleep quite easily, but then wakes up at 2:00 or 3:00 in the morning and is unable to sleep any more. In addition, there may be a characteristic rhythm about these feelings and the patient complains that he feels worse in the morning and relatively well toward the end of the day.

DR. RODINE: Suppose you tell us more about the different kinds of depression.

DR. GILBERT: Differential diagnosis and nosology plague every branch of medicine and psychiatry is no exception. However, for the sake of easy reference, it is sometimes customary to refer to neurotic depression and psychotic depression. In the former, the reaction is often precipitated by a current situation, frequently by some loss sustained by the patient. The term is synonymous with reactive depression. On the other hand, in a psychotic depression, the alteration of mood is severe and there is usually evidence of gross misinterpretation of reality, including at times delusions and hallucinations, as well as intractable insomnia, guilt and concern over

various somatic functions .

DR. RODINE: Those of us who are not in psychiatry would like to know more about the specific symptoms for which we should look, Dr. Bowes?

DR. BOWES: Those of you who are in the front line of medicine see people long before they are referred to us. By this time the diagnosis is relatively simple, but in the early stages it is quite difficult and may mimic anything from anxiety to dementia with all sorts of physical overtones.

Characteristically, the depressive illnesses start off with a lowering of the mood and of the physical, mental and social activities of the individual. The patient becomes taciturn and morose. His sleep is no longer refreshing and he tends to wake early feeling depressed and to dread the long day ahead. He feels tired and everything becomes an effort. Food loses its flavor and he has to force himself to eat it. There is loss of sexual desire in the male and often menstrual disturbances in the female. Frequently constipation and gaseous distension are present. Headaches, muscle pains in the arms, legs and trunk are common. There is loss of interest in his former avocations, a decrease in visiting and recreational pursuits and a reluctance to participate in family matters. Anxiety attacks with fears of going insane are common. The patient shows a loss in weight and becomes preoccupied with feelings of guilt and remorse. As the depression deepens, feeling of hopelessness and helplessness is common. The future looks black and suicidal thoughts become increasingly persistent. By now the patient has started to lose insight and the neurotic symptoms of the depressive reaction are becoming psychotic.

If a retarded depression is developing, the patient becomes increasingly slowed down in speech, thought and movement. Feelings of numbness and unreality shade into delusions of nothingness and bodily decay. In the agitated depression the patient becomes increasingly restless and must always be on the move. He rocks himself backward and forward in his chair, the picture of misery, wringing his hands and repeating phrases such as "My God, My God." The inexorable cloud of retribution

swirls round his head and suicide seems the only way out. Depressions affect all ages and both sexes, but they are more commonly complained of by women who are prepared to seek help, while men try to fight off the milder depressions and only seek help when severely depressed.

In recurrent depressions, the patient is usually 40 years or over and a family history of manic-depressive illness is found in about half the cases. A short, stock build is characteristic.

DR. RODINE: One of the things I personally have always been interested in — particularly in my surgical practice — is what you, Dr. Gilbert, have already referred to: depression in disguise. Could you tell us something more about that, Dr. Gilbert?

DR. GILBERT: Although the symptoms of depression are usually easy to recognize, there are times when this disease appears in a diffuse and vague fashion. The signs now take the form of a physical illness which is often referable to the gastrointestinal tract; there may be complaints of obstinate constipation or of recurrent dyspepsia and the exclusion of physical illness is often difficult but, if the attacks occur periodically and have an effect on the patient's well-being, exceeding by far the objective findings, a depressive illness should be suspected as the underlying cause of the physical disability.

If, at this time, the examiner will ask a few well-chosen, discreet questions as to whether depression is present — and if so, at what time of day it occurs — whether there is altered sleep rhythm, if the patient has lost his appetite for food and whether the outlook with regard to the future looks hopeless, it is usually easy to pick up the underlying depression.

DR. RODINE: I think I'm much clearer in my mind now about this illness, but all of us would like to know what we can do after we've made the diagnosis. For example, what drugs are there that we can use?

DR. BOWES: Already there is a bewildering array ranging from amphetamines to monoamine oxidase inhibitors and the number will increase in the near future. Based on our own experience, the two most effective and comparatively non-toxic are Phenelzine (Nardil) 3-5 15 mg. tablets daily and

Imipramine (Tofranil) 3-6 25 mg. tablets daily, depending on the patient's build.

Something must also be given to control the anxiety that invariably accompanies depression and for this purpose we have found Librium 3-6 10 mg. capsules daily to be most effective in all but psychotic depressions. This drug, on which I did some of the original research² is almost specific for the anxiety, phobias and tension which accompany most depressions. This combination is most important because, with the rapid reduction in anxiety, the patient feels immediately better and is encouraged to take this anti-depressant drug for the several weeks which may be necessary before the depressive component of his illness is relieved.

Nardil, a mono-amine oxidase inhibitor, is believed to work by increasing the cerebral levels of serotonin and norepinephrine and Tofranil, a phenothiazine derivative, by sensitizing the nerve cells to serotonin. Both these drugs can produce hypotension, dry mouth, blurred vision and constipation. They should not be given to patients with a history of serious liver disease. In those depressions in which insight is lost, a phenothiazine, such as Thorazine, should be substituted for the Librium; but I don't advise you to treat psychotic depressions — the chances of suicide are too dangerous.

We have been singularly fortunate in having no cases of suicide in over 400 cases of depression we have treated to date but we don't know how long our luck will last. A word about senile depressions, many cases who have failed to respond to any of the anti-depressant drugs improve rapidly on L'Glutavite, one teaspoonful t.i.d., a.c. in tomato or vegetable juice. This compound is especially effective when, because of anorexia, the patient has been taking an inadequate diet.

DR. RODINE: While you have been describing these drugs, two very important questions have come up in my mind. What kind of psychotherapy should we use? When should we refer cases, Dr. Bowes?

DR. BOWES: Psychotherapy is basically a matter of common sense and its effective use in all branches of medicine distinguishes the good doctor from the mere technician with a medical degree. Whether

you know it or not, most of you present here are using psychotherapy more than any of your other skills in the course of your daily practice.

In depressions you should try to convince the patient and his nearest relatives that: (1) You know what you are talking about, (2) that it is as organic a disease as a peptic ulcer, and (3) it takes time to recover and the relatives must not try to increase feelings of guilt and worthlessness by driving the patient too hard.

Firstly, as the symptoms of depression begin to unfold, ask questions relating to other expected symptoms. The patient and his relatives (and they must be brought into the picture) will then realize that you are dealing with a well-recognized illness.

Secondly, the emphatic statement that depression is an organic illness will make for the acceptance of the condition by the patient and his relatives. The old bogey of mental illness being possession by the devil is still uncomfortably present in many minds. Thus reassured, the patient can then shift the emphasis on physical symptoms to the psychological and social aspects of his illness, where it belongs.

Thirdly, tell the relatives, in front of the patient, just how miserable a disease this is to have. Tell them not to push too much, to leave him alone and not to try to "snap him out of it" by jocularly and appeals to "will power" and to "pull himself together." Tell them that he will improve immediately with the reduction in anxiety by the Librium, but that it will take about 3 weeks before his depression lifts. Discuss the possibility of suicidal ideas and ask the patient if he can keep from self-destruction for the next few weeks. If he doubts his ability to do this, then we come to the second part of the question — when should we refer cases.

Whenever there is a history of previous suicidal attempts or severe suicidal tendencies, refer these cases immediately. Thirty per cent of the depressions we have treated have required short courses of electroconvulsive therapy given in the local general hospital and the patient need only stay for an average of five days.

We believe that the future of psychiatry

(Continued on Page 79)



Scientific

P A P E R

NON-SURGICAL MANAGEMENT OF MALIGNANCIES

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Surgery and X-ray therapy for many years have been and still are the primary forms of treatment for cancer. Refinements in surgical techniques have reduced operative mortality and have permitted extension of surgical procedures. Intensive drives have brought countless individuals to the cancer detection clinic and doctor's office permitting earlier diagnosis and treatment of neoplastic lesions. Yet in spite of improved surgical and X-ray techniques and earlier diagnosis the crude 5-year survival for mammary cancer has risen only from a pre 1950 rate of 48% to a post 1950 rate of 50%, bronchogenic carcinoma in males from 3 to 4%, carcinoma of the large intestines from 22% in males and 28% in females to 29 and 35% respectively. The 5 year survival for ovarian cancer is unchanged and the 5 year survival rates for carcinoma of the tongue in females and for basal cell cancer of the skin in both sexes actually has worsened since 1950. Some of the crude 5 year survival rates (for whites only) diagnosed in 1950 and after and compiled by the U. S. Department of Health, Education and Welfare for the

Fourth National Cancer Conference held in Minneapolis in September 1960,¹ are listed in Table I.

Table I
CRUDE 5-YEAR CANCER SURVIVAL RATES
(WHITES ONLY)
ALL REGISTRIES COMBINED CASES
DIAGNOSED 1950 AND AFTER

SITE	MALES	FEMALES
Breast		50%
Ovary		24%
Prostate	24%	
Esophagus	2%	5%
Stomach	8%	9%
Large Intestine	29%	35%
Bronchus & Lung	4%	8%

(Microscopically confirmed cases only)

U. S. Dept. H. E. W. Prepared for
Conference Sept. 1960

The overall 5 year survival rate of non-white women with mammary cancer is only 39% for reasons which are not presently evident. It is apparent that 5 year survival rates for ovarian, prostatic, gastrointestinal and bronchogenic cancer is much poorer. It might be pointed out that the term 5 year survival does not mean 5 year cure or even control of cancer. Inspection of these data will indicate, but only partially demonstrate the enormity of the salvage job before us.

Many of the patients alive at five years are crippled by a disease whose economic, physiological and psychological cost is almost unmatched by any other disease today. The questions before us then are:

1. What can be done about the greater than 50% overall five year failure rate.
2. How can survival time be improved.
3. How can the quality of survival time be bettered.

In 1896 Beatson performed bilateral oophorectomy on 3 women with extensive inoperable fungating breast cancer.² There was impressive regression of growth in one of the three cases. Subsequently the role of hormones in cancer aroused increasing interest. Effectiveness of hormone therapy appears to be related to endocrine dependency of a tumor and unfortunately there is no practical way of testing for this factor. Hormone therapy has been most useful in prostatic and in mammary carcinoma. Its effectiveness in any other type of tumor is questionable.

Hormone therapy can be additive or ablative. Additive hormone consists in the administration of estrogens, androgens or large doses of corticosteroids. The ablative procedures include oophorectomy, orchiectomy,

adrenalectomy and hypophysectomy. No type of hormone therapy is of value in the presence of brain or liver metastases. It should be noted especially in relation to mammary cancer that:

1. There is no sure way of predicting which type of hormone therapy will be most effective in any given case.
2. Response to hormone therapy, if achieved, is time limited.
3. Tumor acceleration is a definite risk.
4. Side effects may be distressing or dangerous.

The general use of hormones, therefore, is limited by the type of tumor and some other factor called hormone dependence. Approximately 35-50% of patients with mammary carcinoma may respond to estrogen therapy for an average of 8 months; 20 to 25% to androgen therapy for an average of 7.5 months. The response rate of adrenalectomy and hypophysectomy is lower and the risk greater.

Although various chemical agents have been used sporadically for the treatment of cancer in the past, not until the last decade has there been a systematic, all-out search for effective oncolytic drugs. The peculiar tissue vesicant action and hematopoietic depressing effect of sulfur mustard gas, noted during World War I, suggested its usefulness against tumors and leukemia. The gas was very difficult to handle and interest waned until World War II at which time a related crystalline compound called nitrogen mustard was developed. Papers on its clinical application began to appear in 1946, and the literature is now voluminous. At the Fourth National Cancer Conference held in Minnesota during September 1960, Dr. Shimken stated that approximately 100,000 drugs have been tested on animals bearing experimental tumors and 100 compounds have been given clinical trial in man. All but a very few are too toxic to be of practical use in human beings. Most of the presently available oncolytic agents fall into three main classes. They are:

- I. Antimetabolites.
- II. Polyfunctional alkylating agents.
- III. General cell poisons.

Antimetabolites are agents which so closely resemble essential cellular building blocks that the cell is unable to recognize the difference and therefore destroys itself by incor-

porating a useless product into its structure. Best known of the antimetabolites are aminopterin, methotrexate and purinethol. These agents have found greatest usefulness in the treatment of leukemia. Methotrexate administered by perfusion techniques has recently been used in the treatment of some inoperable head and neck cancers and in epidermoid cancer of the cervix. Unfortunately, like all other available anticancer drugs, methotrexate is not a curative agent and repeated perfusion is difficult if not impossible. 5-Fluorouracil is another available antimetabolite used in treatment of various solid tumors with reported success but with some limitation due to its clinical toxicity.

Polyfunctioning alkylating agents are highly reactive compounds that attack nucleoproteins by combining with carboxyl, phosphoryl or amino groups. The best known is nitrogen mustard, a potent but nauseating and vesicant agent which should be given intravascularly. It is effective in the palliation of some bronchogenic carcinomas when the nausea can be controlled. However, HN_2 as well as triethylene melamine, another member of this group, are both more useful in the treatment of Hodgkin's disease than in the management of the solid tumors. Because no presently available agent is curative in human tolerated doses an effective oncolytic drug must be tolerable over long periods of time, and also must permit local administration in order to increase concentration at a tumor site. Nitroimin, cytoxan and triethylene thiophosphoramidate* are non-vesicant. Few patients tolerate repeated doses of nitroimin because of its nauseating side effect and cytoxan may cause alopecia.

The general cell poisons include benzene, arsenic, colchicine and the polysaccharides, none of which have proven of general usefulness.

This list is obviously incomplete and only intended to indicate the general types of compound which have shown promise. Regardless of its type a good anti-cancer drug must have certain qualifications to be of practical value. It should have:

1. Anti-tumor effectiveness.
2. Long action.
3. Minimal or absent clinical toxicity.
4. Ready solubility.
5. Adaptability to various routes of ad-

ministration.

6. Predictable hematologic effect.

7. Toleration by host for indefinite periods.

The fact that no available anti-cancer drug is curative has been mentioned. However, it might be pointed out that insulin does not cure diabetes nor does digitalis cure heart disease. Yet the proper use of these two invaluable agents has enabled patients with diabetes and heart disease to live normal lives. If we can accept the limitation of incurability and talk more in terms of control, patient management become more rational.

Recently the role of chemotherapy has assumed growing importance in the control of recurrent cancer and in advanced inoperable or only partially resectable tumors. The demonstration of circulating cancer cells as well as cancer cells in wound washings has suggested the possibilities of chemotherapy for postoperative wound and blood sterilization.

Some cancers are more responsive to chemical management than others. Best results to date have been obtained in the treatment of advanced ovarian and mammary carcinoma. Adenocarcinoma of the uterus, clear cell tumors of the kidney, pancreatic cancer and salivary gland tumors also appear to be responsive. Disease may be slowed and partial control achieved for varying periods also in patients with brain, bronchogenic and gastrointestinal tumors as well as in some cases of melanoma. Response of epidermoid cancers and sarcomas is limited.

In our clinics triethylene thiophosphoramidate has received wider use than other cytotoxic agents because of its lack of clinical toxicity, its adaptability to all routes of administration and its predictable hematologic effect. Radiotagged drug studies have corroborated the clinical impression that about $\frac{1}{2}$ of a locally injected dose of drug appears fairly promptly in the blood stream and systemic as well as local administration is thereby achieved.³ The site of disease which poses the greatest threat to the patient's welfare or comfort is chosen for injection at each visit and the dose of drug is determined by a pre-treatment blood count. All patients are treated on an out-patient basis if possible. For the first year treatment is given at weekly intervals, subsequently the intervals are gradually lengthened if demonstrable

* Thiotepea, Lederle

disease has completely regressed.

The following are some examples of what can be achieved with chemotherapy in some cases:

B. K., a 69 year old woman, had had a bilateral salpingo-oophorectomy and hysterectomy in November 1950 for papillary adenocarcinoma of the ovary. In September 1951 an inguinal node biopsy revealed metastatic carcinoma. A course of stilbestrol was followed in 1952 by bilateral groin dissection. On March 9, 1954 the patient appeared in the clinic with a large right supraclavicular mass. Needle biopsy revealed metastatic tumor. Forty milligrams of triethylene thiophosphoramide were injected into the mass and in three weeks there was complete regression. This, one of our earliest cases, demonstrated that objective regression of ovarian carcinomas was possible with chemotherapy.

F. D., a 58 year old woman required repeated thoracentesis for effusion from April to August 1957. In August exploratory laparotomy and biopsy revealed bilateral ovarian carcinoma metastatic throughout the abdomen and to the liver as well as the presence of ascites. On 8-28-57, 50 mg. and on 9-5-57 35-mg. of triethylene thiophosphoramide were injected into the left pleural space following thoracentesis. Subsequently the drug was injected by the transabdominal route at weekly, then longer intervals, to hematopoietic tolerance. The patient has no evidence of cancer at this time, more than three years after initiation of chemotherapy, and is living a normal life.

P. C., a 34 year old woman in October 1953, sustained a left salpingo-oophorectomy for malignant dysgerminoma. In December 1953 she had a hysterectomy and right salpingo-oophorectomy and in August 1954 a resection of the small bowel for metastatic obstruction. At this time there were metastases to the omentum and mesentery and an irresectable pelvic mass. The patient was treated by transvaginal administration of triethylene thiophosphoramide, at first at weekly and then longer intervals. The palpable pelvic mass disappeared and the patient is well and with no evidence of tumor six years after institution of chemotherapy.

In certain of our early cases therapy was stopped when regression appeared to be complete. Tumor always recurred and was

subsequently more difficult to control. The survival data has been reviewed in 96 cases of advanced ovarian cancer treated with chemotherapy, and compared to the Connecticut State statistics which includes comparable cases treated by surgery and/or X-ray only.⁴

OVARIAN CARCINOMA — Per Cent Survival After Diagnosis of Remote Metastases

SOURCE	3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
Bateman	94.8	85.4	83.0	30.5	31.0
Connecticut	64.6	35.9	19.1	6.0	3.5

In contrast to ovarian carcinoma which is a relatively uncommon tumor, mammary cancer is, next to skin cancer, the most common neoplasm in this country. Although the improvement in survival resulting from the use of chemotherapy is not as startling as that achieved with ovarian cancer, the benefits are substantial. Survival time, calculated from the onset of distant metastases in 252 patients was plotted on a semilog graph and it is apparent that survival is significantly better than that seen in a similar group of cases who were treated by conventional procedures only.⁵ Mere prolongation of survival is a limited objective. The majority of the chemotherapy-treated patients were rehabilitated to the extent that they resumed or continued much of their prior activity; many were able to enjoy vacations. Chemotherapy has been extremely useful for the control of pleural effusion secondary to pleural metastases. Drug can be administered through the thoracentesis needle at the end of the tap; the procedure is easily managed in a clinic or office. Objective response of varying degree can be achieved in approximately 60% of patients treated. Although bone metastases may also heal, supplemental local X-ray therapy is faster in effect. The following are some patients with advanced mammary carcinoma who were treated with chemotherapy.

E. Z. was a 47 year old school teacher, mother of two children, who had had a right radical mastectomy in 1951 followed by post-operative X-ray therapy. In 1955 the patient developed cough, dyspnea, dysphagia and weakness. Physical examination demonstrated pleural effusion, auricular fibrillation and a supraclavicular node. The patient was started on chemotherapy with triethylene thiophosphoramide given firstly by the intrapleural route and subsequently by

local or intravenous injection. The pleural effusion regressed and the cardiac arrhythmia reverted to normal. This patient continued to teach school for four more years when increasing respiratory embarrassment resulted in demise. At postmortem examination the cancer was found to be limited to 2 or 3 small hepatic nodules but X-ray fibrosis had destroyed the right lung.

M. R., a 49 year old lady was first seen in March 1954 at which time bloody pleural effusion contained cancer cells and needle biopsy of two large chest wall metastases also demonstrated the presence of cancer cells. The patient had had a left radical mastectomy five years previously following which yearly recurrences were treated with X-ray or surgical excision. Triethylene thiophosphoramide was administered into the pleural space following taps or into the chest nodules at weekly intervals for one month. The patient then disappeared and was not again seen until December 1955 when she returned because of a small local recurrent nodule. The nodule again regressed with further chemotherapy. This was one of the most responsive breast cancers that we have seen.

R. L., a 29 year old mother of two small children, in August 1953 had a wedge resection of a left breast cancer followed by X-ray therapy. In August 1954 a right radical mastectomy was performed for a second primary cancer. In 1955 the patient developed clumsiness, weakness of an arm and double vision. A diagnosis of intracranial metastases was made by a consulting neurologist. X-rays at this time demonstrated metastases to the lung and to the ilium. Intravenous therapy with triethylene thiophosphoramide was instituted. Within a few weeks the patient was driving her own car because she now "saw only one road." Two months later there was regression of the pulmonary lesions and they had almost disappeared in another two months at which time the osteolytic lesion in the ilium had also healed. Unfortunately the patient was permitted a fairly long vacation. Control was lost and she died from cerebral metastases nine months after institution of therapy.

A. P., a 74 year old woman, was first seen in March 1960, at which time she had mul-

tiples 0.5 to 2 cm. nodules over the upper trunk and in the scalp, in both breasts, a 10-cm. nodular right axillary mass, a right pleural effusion, X-ray evidence of multiple pulmonary nodules, pathologic fracture of the 7th rib and an osteolytic lesion in the ischium. There was hypertension and evidence of generalized advanced arteriosclerosis. Biopsy of a skin nodule revealed metastatic mammary carcinoma. On 3-24-60 a chest tap was performed following which 600-mg. of cytoxan were instilled into the pleura. Subsequently the patient received 400 to 600 mg. of cytoxan into the subcutaneous nodules at weekly intervals and supplementary steroids were administered. By 5-12-60 the right axillary mass was 1 x 2 cm., many subcutaneous nodules had disappeared, others were smaller. A chest X-ray revealed minimal pleural effusion, general improvement of pulmonary metastases. Although the nodules never entirely disappeared the patient did quite well until 7-14-60 when pleural fluid recurred. It was again removed and cytoxan was administered. The patient, however, developed increasing weakness and lethargy. She expired on 8-20-60, five months after her first dose of cytoxan.

Regression of certain salivary tumors can be achieved by the use of local injections of chemotherapy.

N. R., an 81 year old retired superintendent of nurses, had suffered several strokes. She was admitted to the hospital hemiplegic and aphasic. There was a 5 x 7.5 cm. mass in the left parotid area, biopsy of which demonstrated a mixed cell tumor. An X-ray of the chest revealed multiple pulmonary metastases.

Local injection of triethylene thiophosphoramide into the parotid tumor were started on 6-7-55 and given at weekly intervals. By August 23rd the tumor measured 2 x 3 cm. and a draining ulcer at the biopsy site had healed. There was also partial regression of pulmonary nodules. On October first the patient expired following another cerebral vascular accident. The parotid tumor was barely palpable at this time.

Although epidermoid carcinoma of the cervix responds only occasionally to chemotherapy, both adenocarcinoma of the cervix and of the uterine fundus appear to be favorably affected by chemotherapy.

V. G., a 58 year old woman, presented herself at the clinic with a six month's history of vaginal bleeding. Examination revealed the cervix to be replaced by a huge bleeding tumor; there was some infiltration into the right adnexa, the uterus was moderately enlarged and movable. Biopsy on March 2, 1954 revealed adenocarcinoma. 30 mg. of Triethylene thiophosphoramidate were injected into the tumor. On March 16, 1960 the lesion was smaller and drier, biopsy now revealed cloudy swelling of some of the tumor cells. On March 25th an hysterectomy was performed. Microscopic examination of the resected tumor revealed further changes. These observations suggested the possible efficacy of chemotherapy for metastatic adenocarcinoma of the uterus.

E. B., a 69 year old woman, had a dilatation and curettage in February 1947 at which time a diagnosis of adenocarcinoma was made. Intrauterine application of radium was followed by an hysterectomy. In the winter of 1956-57 the patient suffered from repeated respiratory "infections" with increasing cough.

A chest X-ray on July 13, 1957 revealed numerous pulmonary nodules. Chemotherapy with triethylene thiophosphoramidate given at weekly intervals by the intravenous route to hematopoietic tolerance was instituted. There was gradual subsidence of cough. Serial X-rays showed some regression of nodules which subsequently have remained stationary in size. The patient is asymptomatic with her advanced metastatic disease controlled over three years following institution of chemotherapy.

The dose schedule of triethylene thiophosphoramidate recommended for patients with far-advanced cancer, such as the foregoing cases, is as follows:

Routes	Initial Dose	Maintenance***	Interval
Intratumor*	45-60 mg.**	5-60 mg.	1-4 weeks****
Intravenous	20-30 mg.**	5-25 mg.	1-4 weeks****

*Includes intrapleural, intrapericardial, trans-abdominal, transvaginal (route of choice in most cases of ovarian carcinoma), intrahepatic, intracerebral.

**Lower dose in all patients with slowed renal excretion related to age, severe debility, chronic cardiovascular renal disease, shock, etc.

Supplemental therapy which has been found of great help in the management of chemotherapy treated patients includes:

1. Antibiotics which are employed only in the presence of signs and symptoms of infection. Leukopenia itself is not considered an indication.

2. Transfusions with whole blood or red blood cells are administered when the hemoglobin drops to seven grams per cent; sooner if the anemia is symptomatic.

3. Steroid hormones for asthenia, i.e., decrease in strength, appetite and well-being. They tend also to counteract the hemolytic process which is associated with advanced neoplastic disease. Preferred are:

Cortisone 12.5 mg. or 25 mg. by mouth twice daily.

Long-acting adrenocorticotrophic hormone in doses of 40 to 80 Units given intramuscularly once or twice weekly.

4. Vitamins except for ascorbic acid are avoided unless a specific deficiency exists. Vitamin B₁₂ and folic acid are routinely avoided because of a possible tumor accelerating action.

On this program it has been possible to avoid all but very mild pain medication such as hydrocodeinone in most patients. Moderate amounts of tranquilizing agents also are frequently helpful. However, once a patient has become addicted to morphine or its equivalent, rehabilitation is almost impossible.

Certain inoperable carcinomas can be treated by a combination of limited surgery and maintenance chemotherapy with gratifying results. The surgical removal of an ulcerated lesion eliminates a nursing problem and chemotherapy permits healing by destroying local residual tumor. An example follows:

L. F., a 59 year old woman, noticed a lump in the right breast in the Fall of 1954; by September 1955 it had ulcerated and the patient was forced to quit her job. When first seen in February 1956 there was a proliferative, ulcerated, infected 20-cm. mass covered with foul smelling exudate and located above

***Dose determined by pre-treatment white blood cell count. Dose decreased in the presence of a falling count. Dose omitted for white blood cell count of 3,000 or less.

****One week interval for first year except in cases of bronchogenic carcinoma when four to five day intervals are desirable.

the right nipple. Culture revealed a pyocyanous infection sensitive only to dyhydrostreptomycin which was administered. On February 12, 1956 fifty milligrams of triethylene thiophosphoramidate are injected into the right breast. On February 14th local excision of the mass was achieved and closure of the defect was done on March 3rd. The patient had weekly injections of drug into the region of the scar for approximately one year following which time the interval was gradually increased to four weeks. The patient returned to work shortly after her operation and has no evidence of cancer today — four and one-half years after surgery and institution of chemotherapy.

Young patients with prognostically poor cancers may be placed on postoperative maintenance chemotherapy with prolonged control in some cases.

H. C., a 33 year old man, developed decreased food tolerance in December 1956 followed by aching of the right lower abdomen. On May 7, 1957 a resection was done of the ascending colon for an adenocarcinoma Grade IV (tumor extended through the muscularis to the subserosa) and seventeen of thirty-four lymph nodes contained metastatic cancer. The patient was placed on triethylene thiophosphoramidate in doses of 5 mg. four-to-five times weekly depending on the white blood cell count. He has worked since then steadily as a bus driver and shows no evidence of recurrence of tumor at this time — three and one-half years following institution of chemotherapy.

L. B., a 24 year old woman was found to have a mass in the upper abdomen early in her first pregnancy. On September 26, 1957 during her fifth month she was operated and a football sized cystic mass involving the left kidney was removed. There was some spillage of tumor which proved to be a clear cell renal carcinoma. Fifty milligrams of triethylene thiophosphoramidate were left in the operative site prior to closure. Therapy was subsequently continued at weekly intervals by injection of drug into the surgical site. On

February 2, 1958 the patient gave birth to a normal baby boy. Therapy has been continued to date but was changed to the oral route in January 1959. At this time — three years following operation — the patient and her child are alive and well.

The use of one dose or a short course of some chemotherapeutic agent at the time of surgery as a wound and blood sterilizing agent in cases which have no demonstrable metastases is receiving increasing attention in many countries. In our series of twenty-one consecutive cases of breast cancer so treated, one patient expired five months after operation from hepatic metastases which were assumed in retrospect to have been present at the time of surgery. The other 20 patients have shown no evidence of distant metastases from 1.5 to 41 months with an average of 24 months following operation. Although several more years must elapse before such a study can be fully evaluated, the early results appear promising.

In summary, chemotherapy offers the hope of improving ultimate outlook for the operable cancer patient and in bettering the prognosis for the prognostically poor cancer case. A program of properly managed chemotherapy will help many so-called hopeless cancer patients to live useful and comfortable lives for prolonged periods.

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The Role of Chemotherapy in the Treatment of Breast Cancer Surgery 47: 6, 895-907 (June) 1960.

THE AMERICAN CANCER SOCIETY

is dedicated to saving lives from cancer and spearheads the fight against cancer quackery. Its Committee on New or Unproved Methods of Treatment of Cancer has a membership of physicians, lawyers, educators, and public relations specialists. This committee has been a prime mover in developing constructive action

against CANCER QUACKERY

Inspired by model legislation formulated by this committee with the active cooperation of the California Medical Association, California, Kentucky and Nevada recently passed bills providing the first effective means of fighting cancer quackery at its base of operations—in the local community.

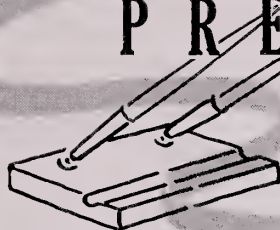
To keep both the public and the medical profession informed, the Society has established, in its national office, a central repository of material on new or unproved methods of cancer diagnosis, treatment and cure—a principal source of such information in this country.

The American Cancer Society, in this as in all its efforts, serves both the private citizen and the practicing physician—and is, in turn, served by both.



THE AMERICAN CANCER SOCIETY

P R E S I D E N T ' S P A G E



It is almost impossible for members of the Association in general to realize the vast amount of detailed work that is handled by the staff in our executive offices. The duties include handling the routine business of the Association; details of the legislative program; the insurance programs; editing details of the Journal; the planning and implementing of our annual meeting, Council meetings, and special meetings; running the placement bureau; and the very important work of public relations.

Assistant Editor of the **Journal** is Mrs. Patricia Saunders, who now handles most of the details in planning, setting up and publishing the Journal. Her efficiency is evidenced by the excellence of our monthly periodical.

Mrs. Patricia Butler does most of the secretarial and stenographic work of the executive office, which includes writing the minutes of Association and committee meetings. It is no easy task to write the minutes of our various meetings with clarity and preciseness, but Patty does the job well.

Miss Phyllis Sundstrom, our Assistant Executive Secretary, serves as Office Manager and "right hand" to John Foster. Because of her ability to carry on the administrative work, it is possible for John to do the travelling and make the many public appearances required of him.

You are better acquainted, perhaps, with the many facets of the work of our Executive Secretary, John Foster. The regard with which he is held in medical association circles throughout the country is evidenced by his election as Secretary to the Medical Society Executives' Association. He has recently ended a term on the advisory committee to the A.M.A. public relations section.

It is only after one has worked as an officer in the Association that he realizes the importance of our efficient staff in the successful operation of our State Association.

C. Rodney Stoltz, M.D.

**MEETING OF THE COMMITTEE
ON LEGISLATION
Huron, South Dakota
Saturday, December 10, 1960—8:00 P.M.**

Present: Chairman H. Russell Brown, M.D., Myron Tank, M.D., and executive secretary John C. Foster.

Absent: E. T. Ruud, M.D.; R. F. Hubner, M.D.; C. L. Swanson, M.D.; and H. R. Lewis, M.D.

The Committee considered all legislative matters referred to it and makes the following recommendations to the Council, supplemental to its report dated September 10, 1960 which was acted upon at the Council meeting on September 25, 1960.

**FOR SUPPORT AS PART OF THE
ASSOCIATION'S LEGISLATIVE
PROGRAM**

1. The committee recommends that residence restrictions for admittance to the TB Sanatorium at Sanator be amended to provide for temporary hospitalization of active communicable TB cases who do not qualify as residents. Provision would be made for hospitalization for a period up to 60 days during which time other sources of care could be explored, residence complications investigated and a suitable facility obtained elsewhere.
2. Indigent Care.
 - A. The committee recommends that the Association reaffirm its previous position favoring a statewide indigent medical care program for categorical assistance recipients. It is further recommended that the legislature be urged to provide funds to activate the provisions of the enabling act taking advantage of Federal funds for medical care in the four categories.
 - B. The committee recommends that the offices of the South Dakota State Medical Association and Blue Shield be delegated as fiscal agents for the provision of physicians care for the Welfare Department in any such program for the following reasons:
 - 1) Existing agencies providing such services for other governmental agencies would be more economical than a

new Welfare Department section.

- 2) SDSMA and Blue Shield can provide physician supervision to use funds effectively and economically.
- 3) In such supervision, the South Dakota State Medical Association should pledge itself to assist in supervision of the expenditure of funds for hospitalization, drugs and medical care to the extent that waste will be eliminated from the program.
- 4) The Association and Blue Shield will provide requested periodical reports to the Welfare Department and will maintain its records for periodic audit by the Department. Such administration should not result in profit or loss to the Association and Blue Shield.
- 5) The Committee further recommends to the Council that negotiated fee schedules for such a program be established at \$3.00 per unit on the South Dakota State Medical Association's Relative Value Scale.
- C. The Committee recommends to the Council that the Legislature be urged to enact enabling legislation and provide funds to implement the provisions of Public Law 86-778 Title VI to the extent that South Dakota may take action to utilize Federal funds available thereunder so that the "near needy" aged people of South Dakota will have assistance in meeting the cost of necessary hospital and medical care.
4. The Committee recommends that when a suitable rabies control program, especially as it refers to skunk control, is introduced, that the Association support such legislation.

OTHER PROPOSALS CONSIDERED

1. Concerning compulsory hospitalization and retention of active tuberculosis patients at Sanator: it should be noted by the Council that this committee understands that present laws do not provide for compul-

sory isolation of active infectious TB cases in their own place of residence, consequently it would seem to be unreasonable to attempt to enact legislation providing for compulsory confinement at Sanator until and unless the former was also accomplished.

2. Compulsory hospitalization of narcotic addicts — The Committee feels that the further study of Federal laws relating to control of narcotic addicts is needed for its information. While legislation could be supported urging court hearings and compulsory hospitalization of addicts, hospitals in South Dakota are not equipped and manned sufficiently to provide proper treatment. If it can be ascertained that the Federal government would and could cooperate in assuming such care and treatment, then such a law would have merit. If not, no definite accomplishment seems possible. It is recommended that further information be obtained regarding Federal responsibility before the Association takes a position on the matter.
3. Action to remove state tax from margarine produced for pharmaceutical purposes. This proposal is forwarded by the manufacturers of a margarine product distributed through pharmacy outlets for therapeutic use. The company asks elimination of the 10c State tax on butter substitutes, taking the position that theirs is a pharmaceutical product and not merely a butter substitute. The Committee believes that enactment of relief legislation should stand or fall on its own stated merits and therefore recommends that the Council and the Association take no official action in support of this proposed legislation.

A.M.A. TO ASSUME NEW LEADERSHIP

“... **Resolved**, that the House of Delegates directs the Board of Trustees and the Council on Medical Service to assume immediate leadership in consolidating the efforts of the American Medical Association with the National Association of Blue Shield Plans, the American Hospital Association and the Blue Cross Association into maximum development of the voluntary non-profit pre-

payment concept to provide medical care for the American people . . .”

By this resolution, adopted in Washington, November 30, 1960, the A.M.A. served notice of its firm commitment to the voluntary non-profit plans as the primary instrument through which America's free medical profession and its voluntary hospital system hope to meet the challenge of the future in providing medical services.

This resolution also placed the A.M.A. in its rightful place of leadership in supporting and guiding the development of Blue Shield. It goes far to assure that organized medicine at the national level will henceforth demonstrate the same direction and support for Blue Shield that the leaders of so many state and county components of A.M.A. have given local Blue Shield Plans from their very inception.

A great opportunity confronts A.M.A. in this new role. By exercising bold and imaginative leadership, A.M.A. may be able to help raise the general level of Blue Shield performance to the point where the “voluntary non-profit prepayment concept” will have proved its case to the American people. Certainly there's much to be done to establish standards for Blue Shield and to bring the performance of all Plans up to the level of the best.

It's none too soon for this leadership to make itself felt!

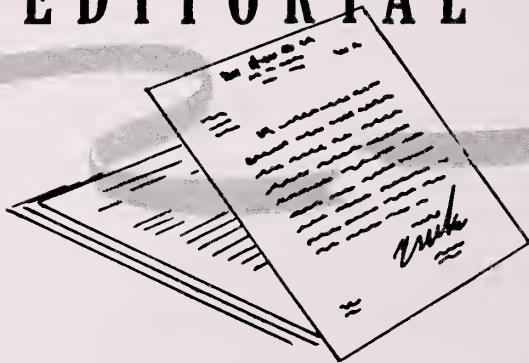
SOCIALIZED MEDICINE—

(Continued from Page 58)

good look at their contacts and extend coverage to as large a segment of the population as possible, without overlooking the possibility of a compromise between the doctors and the government in the care of the aged and indigent.

My conclusion is, therefore, that, whereas state medicine may appear to a great number of people to be a benign growth, it can, in fact, be an extremely malignant one, and appropriate action should be taken immediately.

EDITORIAL PAGE



EDITORIAL

The South Dakota Heart Association again welcomes the opportunity to speak to the doctors of South Dakota during Heart Month. The importance of the work of the Heart Association in contributing to research, to the education of both the medical profession and the public, and in the area of community service hardly needs to be emphasized.

As Heart Associations go, the South Dakota Association is relatively young, but we feel that we have made great progress in the past few years. Our full time director, Mr. George Rohn, has made our work more effective and far reaching. The fact that we are now supporting a full time man in Research at the University of South Dakota Medical School and contributing our share to American Heart in Research makes our total contribution to Heart Research above the national goal of 50 per cent of our monies going for this most fundamental work.

At the present time, the South Dakota Heart Association is engaged in a year long self appraisal and long range planning study. Already many new facets and areas of service are becoming apparent to us. One thing which we have not emphasized enough, we feel, is the doctor participation in all phases

of our program. A more active doctors' role in fund raising could be a great incentive to all the lay members of South Dakota Heart. A closer cooperation between the doctors and the Heart Association could also be a means of educating the patient about heart disease. An enthusiastic attitude toward research could act as a stimulus to young people in choosing their life's work in this field.

In the field of Rheumatic Fever Prevention our Penicillin Prophylaxis Program seems to be well accepted. In Yankton a Throat Culture Program in the schools has been set up with Dr. Willis Stanage being the moving force. It is felt that this has been most effective in preventing the spread of streptococcal infections and in controlling them promptly. The South Dakota Heart Association is hoping to see similar programs set up throughout the state, and some enthusiasm by the local medical societies would certainly be most helpful.

The South Dakota Heart Association would like to thank all the members of the South Dakota Medical Association for their excellent cooperation in the past and join with you in a "heartly" wish for the furtherance of knowledge and dissemination of knowledge in this most important field of medicine.

THE LEAGUE FOR NURSING

If you can't lick 'em, join 'em! Probably this would be denied as the attitude of hospital administrators who have joined the National League for Nursing, for they had certainly not reached a battle stage. However, there has been a concerted effort over the country by state hospital associations urging administrators to individually join the National League for Nursing and the state branches. There seems to be some merit in their thinking and it applies to physicians also.

The National League for Nursing is the accrediting organization for schools of nursing. Hospital administrators did not always agree with the standards and procedures set up. But when they talked with the League leaders they were asked "Why don't you help us formulate them?" The first step is membership, for the League offers "equal partnership between nurses and all other Americans concerned with good nursing care and education." The National League for Nursing should not be confused with the American Nurses Association. The latter's primary concern is for the nurses. The League is principally interested in the care that the nurses give to patients, working on standards and methods of upgrading this care. In this they feel that lay people and other professions are equally interested and invite them to join.

It seems that the attitude of joining together to thresh out basic problems instead of waiting to battle it out later is a good one. It would be well perhaps if the individual physicians got into the act. The American Medical Association as well as the American Hospital Association is an Interactive Agency of the National League for Nursing. There are various types of memberships ranging from \$10.00 up. To learn more about the League and its membership, write to Sister Margaret Mary, Chairman, Membership Committee, South Dakota League for Nursing, St. John's McNamara Hospital, Rapid City, South Dakota. Instead of saying "They don't make nurses like they used to" why not join 'em and give the benefit of your knowledge and experience to this organization.

Ernest L. Forbes

EDITORIAL

The patient dismissed her nurse somewhat abruptly, and, as the door closed, she reached under her pillow and brought out a Crucifix, such as is usually found on the wall of patient's rooms in all Catholic Hospitals. I know the lady was a Lutheran and so she surprised me by her statement: "The Sister brought this to me. Do you think it is wrong for me to have it?" (I subsequently learned that the Sister had given it to the patient at her own request.)

Partly to gain time to marshal my thoughts, and partly to understand her, I asked, "What is that?" Somewhat condescendingly she answered, "It is a Crucifix." "Yes," I said, "I know that; but what does it represent?" "Why," she somewhat pityingly explained, "It represents Christ on the Cross."

I allowed a pause that followed to extend long enough for some soul searching on both sides of the answer. The reply came to me as if from the Cross itself. "Yes, My Dear, it represents Christ on the Cross; and I have never been able to make myself believe that Christ died on that Cross just for the Catholics."

You see, the patient was knowingly facing death, and by our associations I knew some of her worries. I added; "If having something tangible to hold on to, to bolster and substantiate the knowledge that Christ died for all of us, then I see no reason why you should not accept that assurance by holding it in your hands."

She subsequently died, comparted by the feeling of a Crucifix in her hands — and still a Lutheran. Can we physicians ever do less?

NO "HEART" ISSUE

February has been the traditional month for the S. D. Journal to be devoted completely to "Heart" in its scientific section. This year, for reasons yet unknown our good friends who gather the material for the "Heart" issue did not produce. It is to be hoped that next year everyone will be "in the grove" and we can produce again our traditional issue.



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sustains
retains*

*extra
antibiotic
activity*

DEC

attains activity
levels promptly

DECLOMYCIN Demethylchlortetracycline attains — usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity
levels evenly

DECLOMYCIN Demethylchlortetracycline sustains, through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or at another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.

TETRACYCLINE
ACTIVITY
WITH
DECLOMYCIN
THERAPY

DOSAGE
150 mg. q.i.d.

TETRACYCLINE
ACTIVITY
WITH OTHER
TETRACYCLINE
THERAPY

DOSAGE
250 mg. q.i.d.

DECLOMYCIN—SUSTAINED ACTIVITY LEVELS

OTHER TETRACYCLINES—PEAKS AND VALLEYS

POSITIVE ANTIBACTERIAL ACTION

PROTECTION AGAINST PROBLEM PATHOGENS

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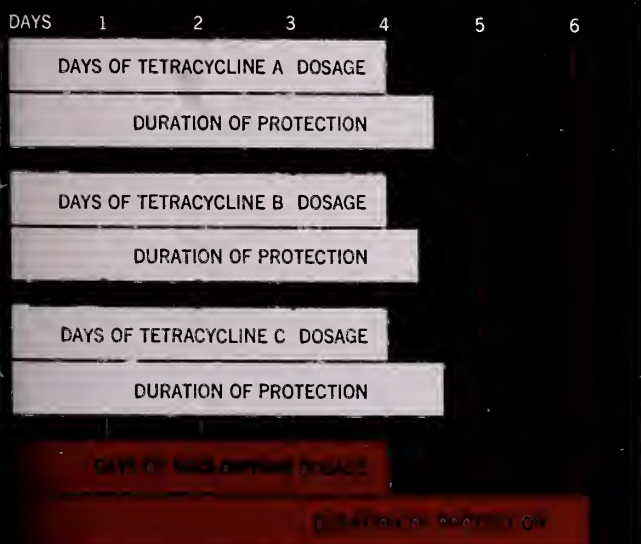
retains activity
levels 24-48 hrs.

DECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may thus be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.



PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



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A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

PROTECTION AGAINST RECURRENCE

F. S. HOWE, M.D.
1876—1960

Dr. F. S. Howe, pioneer South Dakota physician, passed away at Deadwood at the age of 84 on Sunday, December 4th.

The prominent Black Hills businessman and retired physician suffered a stroke Nov. 19.

Dr. Howe, who retired from medicine several years ago after more than 50 years of practice, continued active in his extensive business affairs until the time of the stroke.

His major business interest was the Canyon Oil Co., Deadwood, a distributor of petroleum products in the Black Hills area and northwestern Nebraska.

He also was president of the Fish & Hunter Co., a Deadwood lumber, hardware and grocery firm; a director of the First National Bank of the Black Hills, and an associate in several other Deadwood and Rapid City enterprises. He also has property holdings in both cities.

He was a life member of the American College of Surgeons, a trustee of Dakota Wesleyan University, and a past president of the South Dakota Medical Society.

Dr. Howe came to Deadwood in July of 1901, following graduation from the University of Illinois medical college.

Deadwood, then only 26 years old, was still a brawling mining camp with 27 variety theaters and a national reputation as a wide-open, tough western town.

But when he died, it was a rather sedate community, which basked in the glory of its past.

He counted among his patients many of the famed pioneer characters.

Dr. Howe was mayor of the city for 12 years during the 1920s and early 30s. His most pleasant duty during that period, he recalled, was serving as host to President and Mrs. Calvin Coolidge when they visited Deadwood in 1927.

Dr. Howe, the son of a physician was born near Pittsburgh, Pa.

He married Lillian Hunter, daughter of

pioneer lumberman, in 1904. She preceded him in death.

They had five children. They are Dr. John S. Howe, Washington, D. C.; Mrs. Clyde (Elizabeth) Donaldson, Hopkins, Minn.; Mrs. S. C. (Genevieve) Spurdon, Irvington, N. Y.; Mrs. Harold (Laura) Newell and Mrs. Alan (Margaret) Clark, both of Deadwood. Thirteen grandchildren also survive.

L. R. ELWARD, M.D.

Dr. L. R. Elward, physician for 50 years in the Athol, Ashton and Doland communities, died Christmas Day at Hot Springs, South Dakota.

Dr. Elward had just recently moved to Hot Springs from Redfield. He had moved to Redfield last Spring from Doland.

One of the old time doctors, he began his practice in 1910 and spent most of his years in the Ashton community.

He is survived by his wife; one son, Lt. Nye Elward of Mesa, and a daughter, Mrs. Kathryn Betts of Mesa.

M. E. COGSWELL, M.D.
1881—1960

Dr. M. E. Cogswell died of a heart attack at his home in Wolsey on Christmas Day.

Dr. Cogswell, who had practiced medicine in Wolsey for 54 years succumbed to a heart condition while enjoying Christmas with his family.

Dr. Mark Cogswell was born at Delton, Wisconsin, November 17, 1881. The Cogswell family moved to Huron in 1882, where he attended the Huron grade and high schools.

He attended the University of Tennessee where he received his medical degree in 1905. He practiced for one and a half years at Hitchcock before moving to Wolsey in 1907, where he followed his medical profession for 54 years until his retirement about a year ago.

Surviving are his wife, Mabel, one daughter, Mrs. B. L. Becker, Sioux Falls; one son, Mark, Aberdeen; five grandchildren, and 11 great grandchildren.

MEDICAL LIBRARY BOOKSHELF



Dr. Glenn Driscoll of the University History Department teaches a course in the History of Science which is a survey of the development of science in its relation to Western Civilization. It covers important men, methods and ideas of science from antiquity to the present time and includes considerable information about the historical aspects of the field of medicine. On November 30th, Dr. Driscoll gave a talk to the SAMA group on tradition in medicine. A fluent and gifted speaker, he held the attention of his audience from beginning to end and motivated considerable interest on the part of the medical students in the history of medicine. Some of the outstanding men discussed by Dr. Driscoll were Hippocrates, Aristotle, Galen, Vesalius and Harvey. The following are facts about these men based on the lecture: **A Source Book of Medical History** compiled by Logan Clendening, Dover Publishers, 1942; Ralph Major, **A History of Medicine**, Thomas, 1954; George Sarton, **Galen of Pergamon**, University of Kansas Press, 1954, and Otto L. Bettmann, **A Pictorial History of Medicine**, Thomas, 1956.

HIPPOCRATES

Plato describes Hippocrates as the "Father of Medicine" and as a "professional trainer of

medical students." There are those who are inclined to be skeptical as to whether Hippocrates was an actual person or whether from vague beginnings the name came to be applied to all writings of the Corpus, the product of numerous disciples of a school of thought. Ralph Major, in his **History of Medicine**, states that he was not a legendary figure or an obscure itinerant practitioner, but a great physician with a wide reputation. Three ancient biographies state that he was born in Cos in 460 B.C.; that he traveled all Greece; that he stayed the plague in Athens, and that his life was of uncertain length (85-107 years).

The Hippocratic Oath is traditionally thought to be the obligation which Hippocrates imposed upon his pupils. Many believe the oath was the pledge required of all who were admitted to the ancient physicians who comprised "a clan of Aescaplepiadae who taught their sons anatomy who in turn transmitted their learning to the next generation. One puzzling clause in the oath is the prohibition against cutting for the stone which is omitted from the Christian oath. It is suggested that cutting for the stone involved castration which was abhorred by the ancient Greeks, but acceptable to the Chris-

tians with their notion of celibacy. The fundamental theory of Hippocrates' medicine was the doctrine of the four humors as first taught by Pythagoreans. "The body of man has in itself blood, phlegm, yellow bile and black bile. He enjoys perfect health when they are perfectly mingled. Pain is felt when one of these elements is in defect or excess, or is isolated in the body without being compounded with all the others. In addition to humors were the elements, earth, air, fire and water and corresponding qualities, dryness, cold, heat and dampness. While an improper mixture of the humors can cause disease, it can rise from an outside agent such as the patient's environment. If one of the qualities, dryness, cold, heat or dampness is present in excess in the environment this tends to produce an excess in the corresponding humor of the body.

ARISTOTLE

Aristotle (384-322 B.C.), a great philosopher and scientist, son of a physician, carried out investigations in botany, zoology, anatomy and physiology. In anatomy he made a comparative study of the uterus in various animals; he described the stomach of ruminants, and he studied the embryonic development of the chick.

Without dissecting the human body Aristotle speculated about the heart, and concluded that it was the body's nerve center and the organ of thinking. In the brain he saw only a bloodless mass of two elements, earth and water, with the regulation of the heart as its main function. His **Historia Animalium** and **De Partibus Animalium** furnish a rough but fairly good idea of animal and human anatomy.

GALEN OF PERGAMON

Born in 130, Galen studied medical subjects, chiefly anatomy for twelve years. Four years of this was in Pergamon after which he became an investigator attending medical and philosophical lectures but also engaged in his own research and writing. His favorite material was the misnamed Barbary ape, which was small and could be dissected in a short time and thrown away before putrefaction began due to the intense heat of most of the year. His knowledge of human anatomy was gained mainly from being surgeon to the gladiators of Pergamon where broken legs, or shoulders, fractured skulls and ripped

abdomens were fairly common. He had, however, few opportunities for human dissection, so his pathological views were superficial. According to Galen, there were three fundamental members in the body, the lowest being the liver, then the heart and uppermost the brain. Each is dominated by a special *pneuma* or spirit and every physiological fact can be explained by one or the other; the liver being dominated by the natural or physical spirit controlling the function of nutrition, growth and reproduction; the heart by the vital spirit which is submitted by a second transformation or distillation in the brain and becomes the animal or psychical spirit. In spite of the unreality of the pneumatic theory it continued to be accepted until the 17th Century.

VESALIUS

Andreas Vesalius (1514-1564) was born in Brussels and, at the age of seventeen, went to Paris to begin his medical studies. His importance is shown in the division of the history of anatomy into three periods; the Pre-Vesalian, Vesalian, and Post-Vesalian. As a professor of anatomy at Padua he published the first modern anatomical treatise, **De Fabrica Humani Corporis** in 1543. This corrects a number of errors of the old Galenical anatomy including one less rib in man; the five-lobed liver; the bicornuate uterus; the seven segmented sternum; the interventricular pores, and the hypothetic sutures in the maxillary.

The "Fabrica" is divided into seven books, the first on the skeleton; the second on muscles; the third on the vascular system; the fourth the nervous system; the fifth the abdominal viscera; the sixth the thoracic viscera; the seventh the brain. It ends with a chapter on "The Dissection of Living Animals." The magnificent drawings are the work of Jan Van Calcar, an artist studying with Titian. Unlike Galen, Vesalius based his work on human anatomical material and his understanding of the structure of the human body contributed greatly to the progress of medicine.

HARVEY

William Harvey (1578-1657) was born in Folkstone, England and attended Granville and Caius College in Cambridge. Afterwards he studied in Padua, where his professor was Fabricius, whose work on the valves of the

veins and the development of the chick profoundly influenced Harvey's two great works.

In 1615, Harvey was appointed Lumleian lecturer to the College of Physicians of London and one entry from his manuscript notes reads, "W. H. demonstrates by the structure of the heart that the blood is constantly passed through the lungs into the aorta . . . He demonstrates by the legature the passage of blood from the arteries to the veins. Thus is proved a perpetual motion of the blood in a circle caused by the pulsation of the heart."

In 1628 his famous work, **Anatomical Exercises on the Motion of the Heart and Blood in Animals** was published in Frankfurt. Harvey used animal dissections and experiments to observe the motion of the heart and blood. The remarkable explanation contained in the seventeen chapters of his book is what has given him the greatest name in English medicine and in all experimental science.

Esther Howard,
Medical Librarian

DEPRESSION: ITS RECOGNITION AND TREATMENT BY THE GENERAL PRACTITIONER—

(Continued from Page 62)

lies in the hands of the general practitioner so, please, try the treatment we have outlined on the numerous cases of depression you see every week. I think you will find it a rewarding experience.

DR. RODINE: Thank you very much Dr. Bowes and Dr. Gilbert; I think that all of us are now much clearer in our thinking about this vexatious complaint.

REFERENCES

- (1) The Anti-Depressant Drugs in an Out-Patient Setting. Paper given by Drs. Bowes and Gilbert to the American Psychiatric Association at Atlantic City — May 1960. To be published.
- (2) The Tole of Librium in an Out-Patient Setting. H. Angus Bowes, M.D., Disease of the Nervous System, Vol. XXI, March 1960 Supp.

MEND PROGRAMS — 1961

January 18, 1961, 8:00 P.M. — H. W. McFadden, Jr., M.D., University of Nebr., Dept. of Microbiology, Omaha, Nebr. — "The Relationship of Antibiotics and Chemotherapy to Bacteria, Basic Science and Clinical Considerations."

January 19, 1961, 8:00 A.M. — H. W. McFadden, Jr., M.D., University of Nebr., Dept. of Microbiology, Omaha, Nebr. — "The Relationship of Antibiotics and Chemotherapy to Viruses, Basic Science and Clinical Considerations."

February 22, 1961, 8:00 P.M. — Unassigned.

February 23, 1961, 8:00 A.M. — Unassigned.

March 22, 1961, 8:00 P.M. — John L. Barmore, M.D., University of Nebr., Dept. Anesthesiology, Omaha, Nebr. — "Newer Trends in Anesthesiology."

March 23, 1961, 8:00 A.M. — John L. Barmore, M.D., University of Nebr., Dept. Anesthesiology, Omaha, Nebr. — "The Management of Emergencies in the Operating Room."

April 24, 1961, 8:00 P.M. — Richard E. Ogborn, M.D., Radioisotope Service, Veterans Administration Hospital, Omaha, Nebr. — "Radioisotopes-Basic Considerations, Clinical Uses, Techniques, Advantages" — I.

April 25, 1961, 8:00 A. M. — Richard E. Ogborn, M.D., Radioisotope Service, Veterans Administration Hospital, Omaha, Nebr. — "Radioisotopes-Basic Considerations, Clinical Uses, Techniques, Advantages" — II.

May 24, 1961, 8:00 P.M. — W. Angle, M.D., Department of Internal Medicine, University of Nebr., Omaha, Nebr. — Cardiology Problems including electrocardiography.

May 25, 1961, 8:00 A.M. — W. Angle, M.D., Department of Internal Medicine, University of Nebr., Omaha, Nebr.

June 28, 1961, 8:00 P.M. — F. F. Paustian, M.D., Dept. of Internal Medicine, Gastroenterology, University of Nebr., Omaha, Nebr. — "Hepatic Cirrhosis-Cause, Pathology, Complications and Treatment."

June 29, 1961, 8:00 A.M. — F. F. Paustian, M.D., Dept. of Internal Medicine, Gastroenterology, University of Nebr., Omaha, Nebr. — "Interesting Malabsorption Problems."

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

The patient does not resent our financial success, if we have helped him; but he cannot forget, if we force collection of a bill for which he has had no benefit.

OB-GYN EXAMINATIONS

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Ill., by the entire Board April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of

their eligibility for the Part II Examinations as soon as possible.

The deadline date for the receipt of new and reopened applications for the 1962 examinations is August the first, 1961. Candidates are urged to submit their applications as soon as possible before that time. For further information write to Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

NEW FUNDS COME TO USD MED. SCHOOL

A \$500.00 grant specified to be used as a Medical Student Loan Fund has been made available to the medical school by the executors of the Estate of Jessie Foster, Wakonda, South Dakota,

which was provided for in the will of the late Jessie Foster.

Word has been received by the medical school of the provision of a grant in the amount of \$1,000.00 from the Estate of the late Dr. Frank S. Howe of Deadwood, South Dakota. Dr. Howe was at one time on the preceptor training program of the staff of the medical school and had for many years expressed keen interest in the expansion and development of medical education facilities in South Dakota.

The medical school has received a check in the amount of \$500.00 from the Homestake Mining Company, Lead, South Dakota, as an expression of the interest on the part of business in the support and development of medical education. An or-

ganization on the national level, the National Fund for Medical Education, has for several years solicited contributions from business concerns in the support of medical education. The contribution from the Homestake Mining Company will be used in support of the general operating activities of the medical school.

MAYO CLINIC TO HOLD CLINICAL REVIEWS

Staff members of the Mayo Clinic and the Mayo Foundation for Medical Education and Research will present again this year a three-day program of lectures and discussions on problems of current interest in general medicine and surgery, April 10-12 at Rochester, Minnesota.

The American Academy of General Practice and the College of General Practice of Canada have advised the Committee on Clinical Reviews that up to 21 hours of Category I credit may be obtained by members of the American Academy of General Practice or the College of General Practice of Canada attending.

There are no fees for this program.

The number of physicians who can be accommodated is necessarily limited. Those wishing to attend should communicate with the Clinical Reviews Committee, Mayo Clinic, Rochester, Minnesota.

ACR SAYS "NO" TO NEW SOCIETIES

Several months ago, the American College of Radiology received inquiries from many editors of state and other medical society journals relative to the American Society of Diagnostic Radiology which was then being promoted by Dr. Louis Shattuck Baer, a California internist. Correspondence with Doctor Baer revealed that that society had no Constitution, Bylaws or officers. The aims of the society were variously described in different communications.

More recently, the College has received inquiries relative to the American Society of Clinical Radiology, also being promoted by Dr. Louis Shattuck Baer. The College takes this means of notifying you that this organization has no known connection with any radiological society or group. Further, it is the opinion of the College:

1. That sufficient opportunities exist in the meetings of county, state, regional and national medical societies for the presentation of worthwhile papers and exhibits in the field of radiology.
2. That sufficient special and general medical journals now exist for the publication of meritorious medical and scientific communications in the field of radiology.
3. That the use of the term, radiology, in the

title of an organization may unfortunately cause those not informed to identify this group as being composed of physicians who have been examined and certified to be competent in radiology by a recognized medical specialty board.

4. That medical journals and their sponsoring medical societies would be well advised to obtain full details concerning the American Society of Clinical Radiology before soliciting reader-members on behalf of Doctor Baer.

SEVENTH DISTRICT HEARS GATEWOOD

The Seventh District Medical Society met at the Cactus Heights Country Club in Sioux Falls on January 3rd.

Dr. John Gatewood, Professor of Surgery at Creighton University spoke on "Trauma, Face and Scalp."

SPRING CONGRESS

The Gill Memorial Eye, Ear and Throat Hospital will hold its Thirty-Fourth Annual Spring Congress in Ophthalmology and Otolaryngology and Allied Specialties, April 10 through April 15, 1961. There will be twenty guest speakers and fifty lectures.

NEWS NOTES

Dr. James R. Reagan, formerly at Stillwater, Minn. joined the staff of the Madison Clinic on January 15th. Dr. Reagan is a native of Sioux Falls.

* * *

Dr. Valentine Marr, Esteline, was named an affiliate member of the American Academy of Dermatology and Syphilology in December.

* * *

The American Cancer Society presented a special award to **Dr. D. A. Gregory** of Milbank for his services to that organization.

* * *

Dr. William J. Perry has joined the staff of the V.A. Hospital at Fort Meade. Dr. Perry, a diplomate of the American Board of Surgery, has been with the V.A. in Fargo for the past six years.

* * *

Dr. I. R. Salladay, Pierre, has been named superintendent and medical director of the State Tuberculosis Sanatorium at Sanator.

* * *

Dr. C. B. McVay, Yankton, was a guest speaker before the Mayo Clinic surgical staff in December.

* * *

Dr. Roman Auskaps, Lake Norden, is the new president of the Watertown District Medical Society.

* * *

Dr. M. Sabbagh, for the past 2½ years located at Lemmon, has moved to McLaughlin in association with **Dr. G. C. Torkildson**.

Dr. Charles F. Falkner, Deadwood, has left the Deadwood-Lead area for a new location.

Dr. Paul R. Leon, graduate of the University of Minnesota, has recently become associated with **Dr. Paul McCarthy** of Aberdeen. Dr. Leon is a radiologist.

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SYMPOSIUM FOR ANNUAL MEETING PROGRAM

A Symposium on "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease" will be held during the annual meeting of the South Dakota State Medical Association on Monday, May 15, 1961. The panel will consist of guest speakers, outstanding in their fields, who will discuss diagnosis and treatment of cases presented to them. **If you have patients with unusual and interesting problems or diagnostic and therapeutic problems relative to neoplastic diseases, please send complete information, including case histories, laboratory and x-ray findings, operative procedures and treatment so that they might be readied for possible presentation to the panel.** We hope to make this afternoon session very interesting to everyone and this can be done **if we have material available.** Please send this information to C. S. Larson, M.D., 303 South Minnesota Avenue, Sioux Falls, South Dakota, as soon as possible and prior to May 1st.

WNAX FEATURES MEDICAL PROGRAM

The role of the family doctor in handling common medical problems arising in a family is the subject of a public service radio series over Station WNAX in Yankton, South Dakota.

Called **Highroad to Health**, the series consists of thirteen fifteen-minute programs. It was produced by Lederle Laboratories in cooperation with the American Medical Association.

Each program opens with a ten minute dramatization of a health problem and its handling by a physician. This is followed by a five minute interview-discussion with a guest physician. Each program in the series features a guest physician from a different state.

Subjects to be covered in the series are mental health, hypertension, arthritis, the problems of aging, cancer, tetanus, nutrition, appendicitis, pneumonia, toxemia of pregnancy, first aid of severe cuts, streptococcal sore throat and accidental poisoning.

Dr. E. Vincent Askey, President of the AMA, has called Highroad to Health "an outstanding example of good radio programming with a purpose — the dissemination of authentic Health information."



PHARMACEUTICAL

SECTION

HAROLD S. BAILEY, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota

PHARMACEUTICAL *Paper*



"RESEARCH: THE NEW DYNAMO FOR ECONOMIC GROWTH"

By

John T. Connor**

Rahway, New Jersey

I am glad to be here among friends to talk about our industry. Since most of us are more interested in what will make the headlines of tomorrow than what made those of yesterday, I shall concentrate on the future. I propose to discuss some of the ramifications of a vital new force that is at work in our society today, a force that the ethical pharmaceutical industry has played a significant part in creating.

When James Watt patented his steam engine in 1769 and transformed a single invention into enough power to launch the Industrial Revolution, he demonstrated the principle that scientific discovery is a potent form of economic energy.

It has taken us two hundred years to ac-

* Address delivered before the Federal Wholesale Druggists' Association, Inc., at the Greenbrier, White Sulphur Springs, W. Va., September 19, 1960.

President, Merck and Company, Inc.

cumulate the store of knowledge, the skilled people, the financial resources and the institutional environment to put this principle to work on a vast scale. This, we are now doing. At an increasing tempo over the past few decades, American industry has been organizing research laboratories and recruiting an army of trained men and women for what is fast becoming a massive assault upon the unknown.

There have been lonely inventors ever since man found out that his curiosity could be turned to practical use. There have been lonely laboratories ever since the development of the scientific method. What is new in the creation of what amounts to an assembly line for the planned production of discoveries. Also new is the effect this planned research may have on the future of our economic growth.

For the past few years this assembly line has been turning out an increasing number

of new materials, new products, new tools and new ways of doing things. Some of them have already made their way to the market place. But the real flood is expected later in the sixties. When it comes, its impact on our already bustling economy may be as great as the impact James Watt's steam engine had on the quiet country towns of eighteenth century England.

Growth and National Power

The rate of our economic growth has recently become a national concern, and rightly so. We are the strongest power and have the highest standard of living in the world today because for several generations our economy grew faster than that of any other country. In large measure the future of human freedom depends on our ability to maintain this lead.

There are beginning to be doubts, not that we can stay ahead, but that we will do so. The Soviet Union is growing at least twice as fast as we and increasing its truculence at an even greater rate. Though there are optimists who predict that it will falter somewhere along the line, it is neither wise nor safe, in my opinion, to risk our survival on such hopes. Too much is at stake.

Some economist, who is also a bit of a wag, has pointed out that there is another way of looking at this problem. If Russia can frighten us so badly, he says, when their economy is less than half the size of ours, just think what we can do to them when ours is only half as strong as theirs. I find this humor rather chilling.

Research: A New Way To Grow

Ever since we have become aware of the consequences of complacency, we have been casting around for new ways to step up the rate of our growth. Research and development may prove to be just such a new way to grow.

To understand why, we have to jump over almost a century and a half from Watt's steam engine to the beginnings of industrial research in this country. About fifty years ago a few pioneer American corporations decided to find out whether the free enterprise system could effectively put to work the principle that new scientific knowledge could be transformed into economy energy. Their success encouraged others. In fact, as the late Sumner Slichter has said: "The dis-

covery that an enormous amount of research can be carried on for profit is surely one of the most revolutionary economic discoveries of the last century."

Research laboratories were well seeded throughout American industry by the time of Pearl Harbor. Then came the victories of organized research which helped win the war — particularly the dramatic ones, such as radar, penicillin and the atom bomb. This demonstration of the power of scientific knowledge changed research and development in both character and significance almost overnight.

The Industry of Discovery

In 1939 we spent only half a billion dollars on R & D. By 1946, the first postwar year, the figure had reached \$2.1 billion. For the next seven peacetime years it continued to climb, reaching \$4.9 billion in 1953. Then it took off. In the next three years it doubled. Dexter Keezer of McGraw-Hill has estimated that last year we passed the \$12 billion mark. This is an explosive rate of growth. Three quarters of this research is being done in corporation laboratories, a little over half of which is financed by the federal government. What Dr. Slichter dubbed "the industry of discovery" had come into being.

The product of the industry of discovery is still the same: new knowledge. But the quest for it is no longer either individual or haphazard. It has become planned, targeted and budgeted. It has become a new way to compete and even the only way, in some industries, to survive. As an anonymous composer of doggerel has put it:

"In modern industry, research
Has come to be a kind of Church
Where rubber-aproned acolytes
Perform their Scientific Rites,
And firms spend funds they do not hafter
In hopes of benefits Hereafter."

Now, what is the relationship between all this burst of activity and economic growth? First, it will result in a vast outpouring of new products that will generate consumer demand and open up new markets. We are all familiar with how the automobile boosted the economy of the twenties. A more recent example is the tiny transistor. It was born only twelve years ago in the Bell Labs. Today transistors and kindred devices have grown into the mighty vigorous half-billion-

dollar semiconductor industry, which is now transforming its own scientific discoveries into economic energy at an astonishing rate.

Second, capital investment will be stimulated to build the plant and equipment to satisfy consumer demand for the new products. This will create new jobs and new spending power.

Third — and some economists believe this is the most important economic effect — R & D will increase productivity through the invention of new machines and new systems to enable us to produce more in fewer man-hours.

As Dr. Alan Waterman, Director of the National Science Foundation, has pointed out, the industries that spend the highest percentage of their sales on research and development are almost always those with the highest rate of growth.

The Drug Industry's Expansion

For almost a generation now, the ethical drug industry has been proving the validity of Dr. Waterman's point. We have been pouring our own resources into planned discovery at a rate that today is unequalled. As a result, the domestic sales of human ethical pharmaceuticals have shot up from \$150 million in 1939 to almost \$2 billion last year. This is a multiplication of 13 times in 20 years.

The energy for this dramatic expansion has come from the scientific knowledge developed by our own laboratories and by those in the universities, medical schools and some government laboratories. This new knowledge has been translated by industry research into an almost endless stream of new and effective drugs that have brought about a revolution in medicine.

Turning New Products Into Growth

The major part of our growth has come from a handful of historic breakthroughs, drugs that either cured or controlled diseases for which nothing effective had hitherto been discovered. You know the names — the sulfas, vitamins, penicillin, streptomycin, the broad spectrum antibiotics, cortical steroids, tranquilizers, diuretics and hypotensives. More than half of these great medicines were discovered in the laboratories of the American pharmaceutical industry and we gave a helping hand at the birth of most of the rest of them. We are proud of this record, and

we deeply resent attempts to belittle it, such as we have seen in some recent Congressional investigations.

With the help of the people in this room, the industry has learned how to turn these landmarks in chemotherapy almost directly into economic growth. On the laboratory shelves they would, of course, be nothing more than useless scientific achievements. Over the years we have perfected an enormously complex but highly efficient production, advertising, sales and distribution system to move discoveries from the laboratory to patients all over the world.

This has enabled us to turn new products into growth at a speed that is probably unequalled by any other industry. Let me give you just one example. "Diuril," which has revolutionized the treatment of edema, was introduced in January 1958. By the end of March of that same year, half the diuretic patients in the United States were receiving it and it was being prescribed by physicians from Chile to Singapore.

Research and development is not just at the heart of our industry; it is the heart. While our production, sales and advertising people are busy competing for current markets, our laboratories are engaged in an even fiercer struggle to capture the markets of the future.

Creative Destruction

This has produced a rate of product obsolescence that is unknown in other fields I know anything about. The last time we made a survey — for the third quarter of 1959 — we found that more than 80% of the prescriptions written for Merck products could not have been written ten years before; the drugs had not yet been born.

This type of creative destruction — as it has been called — has required our industry to spend unprecedented amounts of our own funds for research and development. In fact, no other industry can touch our record in this regard. The industry's R & D expenditures multiplied six and a half times from 1945 to 1959, reaching \$197 million last year. This was 7.8% of our world-wide sales, better than three times the average for all manufacturing. It is also a higher percentage of sales than that spent by any industry except aircraft, almost all of whose research is subsidized by the government. The taxpayers

pay for only 1% of our research; our stockholders finance the other 99%. For years now Merck has put more of its own money into research than it has paid out to its stockholders in dividends.

We are not just robbing the existing store of scientific knowledge and doing nothing to replace it. According to the National Science Foundation, we are spending 17 cents out of every research dollar for basic research, or six times the average for all industry. Only petroleum can top our percentage, and it gets five times as much of its funds from the government as we do.

During the period of the pharmaceutical industry's greatest expansion there has been a substantial amount of inflation. This has tended to make the growth of our economy look greater than it actually has been. Is this true in the case of our industry? How much of our expansion, as measured by dollars, is real and how much of it is imaginary — in other words, just due to price increases?

Growth Without Inflation

One of the miracles of the drug industry is that we have been able to achieve growth without inflation. In fact, we have not only not raised the general level of our prices, we have actually lowered them.

Dr. John M. Firestone, Professor of Economics of the City College of New York, has recently constructed and published an Index of Wholesale Prices for Ethical Prescription Pharmaceuticals. This new index measures the price changes for over 200 prescription drugs during the decade from 1949 to 1959. The prices measured are the prices paid by pharmacies for specialty drugs used in filling prescriptions.

Professor Firestone's index shows that during a decade when wholesale prices for all commodities measured by the Bureau of Labor Statistics rose 20%, the wholesale prices of specialty prescription drugs fell 7%. This, I submit, is a remarkable achievement.

Dr. Jules Backman has described this achievement rather succinctly. "If drug prices had risen as much as other prices since 1939," he says, "it would cost the consumer at least another billion dollars to buy the drug preparations now consumed." Everyone in this room can take pride in the part he has played in making this record possible.

Human Capital

All these contributions to national growth, however, are probably over-shadowed by a single one that is unique to our industry. This is the contribution we have been able to make to human capital through better medicines to cure or control disease.

Because of our Judeo-Christian traditions, we are inclined to think of health mainly in humanitarian terms. Who can measure the total value of relief from pain? But sickness and premature death are also economic losses of both the individual and the society and better health is an economic gain. Our economy has reached its present plateau and will progress in the future because of additions to our human capital as well as those to our physical capital. The Soviet Union has dramatized this point through its emphasis on better health and education, the two chief components of human capital.

Though it is clear that new drugs have contributed materially to the productivity of every industry by reducing the absenteeism due to illness, no one has yet measured the economic value of changes in the health level of the U. S. population. But attempts have been made to put a dollar sign on a few of the pieces of this vast puzzle.

In the twenty years from 1937 to 1957, the death rate in this country was cut 15% and a whole decade was added to the length of the average American's life. This has been due in large measure to new drugs — particularly the antibiotics — and to steady improvements in all phases of medicine.

The National Health Education Committee estimates that this drop in mortality has saved over 3,800,000 productive lives, the number of persons of working age who would have died in the twenty-year period, had the 1937 death rate prevailed. It has also translated this saving into dollars and come up with the calculation that about \$7.6 billion in additional income was earned in 1957 by the people whose premature death was averted.

More significant than even this contribution to economic growth have been the great strides medicine has made in the prevention and control of nonfatal illnesses. Disability due to disease steals far more from the national purse every year than does premature death.

Rheumatoid arthritis is just such a disease. It kills very few people. Instead, it threatens most of them with permanent disability — or it used to before the discovery of cortisone. Because cortisone was synthesized in Merck's research laboratories and because all of its derivatives were discovered by scientists working for the drug industry, it is fair to give a substantial part of the credit for the economic gains from the cortical steroids almost directly to our research.

Contribution of A Single Drug

My own company had made an attempt to measure the economic contribution of cortisone and its derivatives in the case of rheumatoid arthritis, which afflicts between three and four million people in the United States, striking them down, in most cases, at the prime of their lives. In the precortisone days, when this disease finally burned itself out, is often left behind a permanent cripple. The cortical steroids have made it possible to arrest this form of arthritis before it could inflict irreversible damage.

Nine leading groups of investigators studied a total of 627 patients suffering from the disease to try to measure the improvements brought about by these new drugs. Before using steroids, only 30% of these patients could lead normal lives. As a result of treatment, a third more of them, or a total of 64%, could do so.

If we take the most conservative estimate of the number of people afflicted with rheumatoid arthritis, which is 3,000,000, one-third of them would be 1,000,000. This means that a million Americans, who would otherwise be a burden on society, can now be restored to productive lives by the steroids.

If this has increased the production of income and saved in the cost of care an average of only \$1,000 per person a year, the potential annual contribution of cortisone and its derivatives to the national economy can be estimated at a billion dollars.

Let us stop for a moment and compare this figure — a \$1 billion annual contribution by a single drug and its derivatives — with the figure I gave you a few moments ago for the domestic sales of all ethical drugs for human consumption, which last year totaled just short of \$2 billion. This means that the cortical steroids alone have boosted the nation's economic growth by an amount equal to half

the sales of the entire industry. It seems to me we are giving our society quite a rate of return on its money.

The Economic Cost of Cancer

The most thorough study of the economic consequences of disease that I have run across is one done by Dr. Burton A. Weisbrod, an economist at Washington University in St. Louis. His book on this subject, "The Economics of Public Health," will be published late this year by the University of Pennsylvania.

Dr. Weisbrod has attempted, with great skill and care, to measure the cost of three diseases — cancer, polio and tuberculosis. His system is too complicated to go into here, but let me say briefly that he has measured the cost of treatment, the amount of lost earnings during sickness and the value of future earnings that were lost due to premature mortality. Incidentally, he has put a dollar value on the lives of females as well as males. The figures on women seem quite sound, but they would give very little comfort to any man who is convinced that his wife's housework is worth little to him in dollars and cents. There are, of course, no such husbands in this audience.

According to Dr. Weisbrod's calculations, the loss to our economy from death, illness and treatment for cancer alone amounted to about two and a quarter billion dollars a year in 1954. In financial terms alone, this is what medical and pharmaceutical research could do for economic growth, if it discovers a cure for cancer.

I said at the beginning of this talk that we can expect the research revolution to send a real flood of new materials, new products and new ways of doing things into the marketplace later in the sixties. The timing will be governed by the number of years it takes for the boom in research expenditures to pay off in the form of discoveries and, in turn, for American industry to turn these discoveries we can expect and the longer the lead time from a new research dollar to a new dollar of sales.

When the results reach the marketplace, it should be quickly apparent that organized research has become the most dynamic economic force of the decade. It should not only help rescue us from the current doldrums of business but it should have a profound im-

pact on the future rate of our economic growth.

\$750 Billion Economy By 1970

Ever since 1900 we have been growing at an average of 3% a year. Our gross national product today is about \$500 billion. If our economy grows this year at the historic rate of 3%, we should add \$15 billion to the GNP. I predict that during the coming decade organized research will so boost that growth that we will have a \$750 billion economy by 1970 and be growing in dollars at least twice as fast as we are now. This is based on a conservative estimate that we will then be growing at only 4% a year. And the dollars I am talking about are real dollars — in other words, growth without inflation.

Research and Patents

Will the research boom be just another boom with a bust at the end? That depends. Research and development expenditures by American industry have expanded in recent years because corporations learned that they could make a profit out of systematized discovery. They have been able to do this for the simple reason that in this country we have had strong patent and trademark laws.

Let me illustrate. Suppose a small company, trying to grow as big as its competitors, risks a sizeable sum on research, hoping to find a really new product. Suppose, after three or four years of frustration, its scientists finally hit a home run. Then follows another period of perhaps three or four years of testing, pilot plant production, market studies, initial consumer tests, sales training, national advertising and large-scale manufacture.

Six or eight years after the original research investment, the new product is fully launched. It is an immediate success. Now suppose this invention were not protected by patent and trademark laws. What would happen then? Once the product was a success, this company's big competitors — who had none of the six to eight years of development expense — would steal the idea, and, using their superior financial resources, flood the market with imitations at a lower price, driving the creator to the wall. How long would industrial research last under these conditions?

As research and development spending mounts in the coming years — and McGraw-

Hill estimates it will rise from \$12 billion last year to \$22 billion in 1969 — competition between laboratories will push up the rate of product obsolescence. This is what has already happened in the pharmaceutical industry. So I speak from vivid experience when I tell you that the shorter the life of a discovery in the market place, the more dependent its industrial creator becomes on the protection of patents and trademarks. If government should weaken this protection, it would immediately reduce the rate of return on the research dollar. This would dry up the research boom at its source.

Patents And World Trade

Such an event would be a disaster for us both at home and abroad. It would slow up our domestic rate of growth and eventually cut us out of foreign markets. As our industrialized competitors in other countries have learned to copy our mass production methods, they have been able to use their lower wages to sell standard goods at lower prices and squeeze us out of many of the world markets. This trend will continue.

To replace the lost advantage of mass production, we have been developing a new way for our world trade to grow. American industry's unparalleled research establishment is our ace in the hole. No other country can begin to match it. Even the Soviet Union, which is up to us in several branches of basic science, as well as in rocketry and space travel, cannot compete. Its research is not powered by industry, nor is it built, as ours is, around the planned discovery of things that people want.

The ability of our research laboratories to turn out new things that people want is opening up fresh markets for the United States all over the world. The drug industry is one of the leading pioneers in this development. But all this would come to an abrupt end if the protection of patents and trademarks were chiseled away, either here or in foreign countries. Eventually the research boom itself would turn into a research bust.

Cutting The Heart Out of Research

In view of this, let me call your attention to a rather shocking event that occurred in Washington less than two weeks ago. To understand it fully, I have to give you a little background.

Most of the countries of the world have their own patent laws. An American manufacturer can get protection under these laws for the products of his research. In the case of drugs, there is a glaring exception in the Free world to this rule: Italy.

For some years now, certain Italian pharmaceutical companies have been taking advantage of this situation. They copy new U. S. drugs, sometimes even before they are put on the market. They then sell them wherever they can get around the patent laws of other countries, undercutting our price, of course, because they have had to bear none of the original research and development expense. Let us call this by its right name. It is piracy, pure and simple.

Even though our government knows this, it recently started buying drugs that were discovered and patented in the United States from the Italian manufacturers who copied them, thus aiding and abetting this piracy and undercutting American research. When this reprehensible practice was criticized at the Senate hearings the other day by a representative of our industry, he was silenced by Senator Kefauver, who said, "We are not going to be used as a forum to disparage scientists of a friendly nation."

Apparently, in Senator Kefauver's book, Italian pirates have become scientists of a friendly nation of whom he will brook no criticism. At the same time, he has no com-

punction about inviting a parade of witnesses disparage the brilliant achievements of our own American scientists whose discoveries the Italians have pirated. It is difficult to find the proper adjective to describe this way of cutting the heart out of American research.

Conclusion

This is a fairly glowing picture I have been painting today of the prospects of what economist Leonard Silk calls "this new growth force of systematized innovation" in his forthcoming book, "The Research Revolution." There is some danger that it is too glowing a picture; that we shall accept R & D as the new saviour that will rescue us from the perils of the age.

It would be nice if we could relax and let the gentlemen in white coats take care of the future of freedom in their laboratories. But let us remember that the Russians have gentlemen in white coats, too, and they are training them at a faster rate than we. They have long been operating on the assumption that human capital — in the form of skilled, educated and healthy people — is a more effective weapon with which to conquer the world than all the slogans of communism, plus the Red Army.

The era of the easy way out for America has gone for good. There is harder work ahead for us — for all of us — than we have ever known.

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PHARMACEUTICAL *Paper*



NEW USES FOR VITAMINS*

New clinical discoveries in vitamin pharmacology have already expanded vitamin use and have excited researches to extend further the therapeutic applications of these metabolites at supraphysiologic levels. Present applications are mostly restricted to the use of a single vitamin in very high doses for a specific pharmacologic effect. Exploration has just begun in another new sphere of vitamin therapy — combinations of two or more vitamins in dosages high enough to produce supernormal levels in the patient's tissues. New product possibilities and new market potentials have already been created or are in the making. Most striking are the widening trials of vitamins at supernormal levels vs. cardiovascular disease. These new uses are promoting the respect of the medical profession for vitamins and serve as reminders to consider the possible need for multivitamin supplements in the total care of individual patients.

Vitamin Pharmacology 1942-1960 . . . 1960 +

In 1942, Dr. Hans Molitor, of the Merck Institute for Therapeutic Research, reviewed vitamins as pharmacological agents.²⁹ A lengthier review (32 Pages) by the same author, with Dr. Gladys A. Emerson as co-author,³⁰ appeared in volume 6 of VITAMINS AND HORMONES, 1948. These discussions were the first in a great realm which has remained largely neglected until very recently. Drs. Molitor and Emerson stated basic principles that endure as guides for studies of the effects of vitamins at supraphysiologic levels. According to these authors:

- (1) "Any vitamin may be expected to restore to normal, (reversible) functional changes which result from the deficiency of that vitamin. It is not easy, however, to determine whether therapeutic results obtained by administration of a vitamin in diseases not following the pattern of a typical deficiency are ascribable to properties other than those necessary for the function as a vitamin."

* We wish to express appreciation to "The Merck Memo" published by Merck and Company for material appearing in this article — Editor.

- (2) "... the amount of a vitamin necessary to produce 'non-specific' therapeutic effects, is usually much larger than that needed to correct a deficiency, although it is still well below the toxic range." However, as the levels of a vitamin are raised far above the normal range, certain toxic effects must be expected. Even water becomes toxic when ingested in excessive quantities.
- (3) "Certain effects of vitamins cannot be observed by simple inspection or application of the commonly used pharmacologic technics."
- (4) In certain instances vitamins at high levels can be used for diagnostic purposes. An example of "the diagnostic value of vitamin administration is the response to B complex vitamins in cases of so-called 'subclinical' deficiency diseases. Mental symptoms such as irritability, inability to concentrate, depression, phobias, and anxieties, have been noted as some of the earliest signs of experimentally induced B complex deficiency . . . prompt relief by vitamin administration may establish a diagnosis which otherwise would be difficult to make."
- (5) "Failure to respond to vitamin therapy does not justify the conclusion that the pathologic condition is not due to a vitamin deficiency. Factors such as interference with absorption, antagonistic effect of specific vitamin inhibitors, changed physiological conditions (lactation, pregnancy, strenuous work) or an unbalance in the composition of the diet may greatly affect the vitamin requirements." Thus, the therapeutic dose of niacin or niacinamide in the treatment of pellagra may be a great many times that required for daily maintenance of the healthy individual.
- (6) One reason for raising vitamin concentrations to supraphysiologic levels: "the belief that very large doses of a drug may exert a 'mass effect' capable of turning the tide of a progressing pathologic condition when smaller doses would fail."
- (7) "The vitamin concentration in the blood is not necessarily an indicator for the state of vitamin saturation of the body as a whole, since the concentration in the tissues may vastly differ from that in

the circulating blood . . . Indeed, even the tissue concentration may vary with the function of the tissue."

The foregoing seven considerations would seem to be outstanding among the many which appear in the two reviews just mentioned.

A New Look at Vitamin A

Vitamin A at supraphysiologic levels is reported by some to have therapeutic value in many cases of acne⁶ and has proved useful in cases of the rare dermatoses, Darier's disease,²⁶ and pityriasis rubra pilaris^{21, 26, 36, 38}. In Darier's disease, also known as keratosis follicularis, the outer or epithelial layers of the skin are cornified and have papules with scabby crusts. Pityriasis rubra pilaris is characterized by the development of patches of small papules, central horny plugs and by scattered patches with pinkish scales. The vitamin A dosage recommended by dermatologists for these diseases is very high: 100,000 to 500,000 units daily — so that toxic effects result if these levels of this vitamin are being used in geriatrics for oral leukoplakia³⁹ (white, thickened patches on mucous membrane of cheeks, gums, tongue).

Quite interesting is the fact that vitamin A may be effective against some warts, the only variety of tumor thus far proved to be caused by a virus invading human tissues. Here notable is another fact: vitamin A deficiency has been considered by some authorities to be a factor in the development of a rare disease which may be virus-caused — cytomegalic inclusion disease.^{5, 9, 27, 41}

In November 1959, Kinley and Krause reported that, whereas supranutritional doses of vitamin A (100,000 I.U. daily) did not, within 4-6 months, lower the serum levels, the supraphysiologic vitamin A levels thus attained in subjects with hypercholesteremia effected a significant lowering of the serum level of the sterol.²⁰ "Although little is known about mode of action or site of action of this vitamin in the body, it would seem that one of its actions is to affect elevated serum cholesterol levels . . . It might be postulated that vitamin A either inhibits synthesis of cholesterol in cases of over-synthesis, or causes mobilization and excretion of cholesterol when blood levels become excessively high."²⁰ Kinley and Krause noted that their observations are in direct disagreement

with results reported by other investigators, whose data appeared to indicate an increase in serum cholesterol after vitamin A administration. However, this apparent increase might be due to failure to separate vitamin A from the serum before carrying out cholesterol determinations, so as to avoid interference of the vitamin with cholesterol assay.

Niacin is established as a potent hypocholesteremic agent. Vitamins B₆ and B₁₂^{44a} also have been reported to be effective in lowering blood cholesterol in humans. In trial studies, Eisen (1958) observed beneficial effects of large doses of vitamin A, riboflavin, and niacin in patients with vascular disease who were heavy smokers.⁸

What role will vitamins at supraphysiologic levels eventually have in the control of arterial disease? Only research can give the answer. Possibly, vitamin A administration may help to retard such degenerative changes as dry skin and scaly dermatoses in geriatric patients.³⁴ In a 1960 publication, *TREATMENT OF THE SKIN OF THE AGED*, Dr. Hilliard M. Shair mentions a geriatric trial of a vitamin A buccal tablet: "In intraoral and tongue leukoplakia, a buccal tablet of vitamin A of 75,000-unit strength used once daily really helps."³⁹

New Uses for High Levels of Vitamin B₁₂

Widely recognized indications for vitamin B₁₂ at high levels are: malabsorption syndromes, certain cases of megaloblastic anemia due to prolonged anticonvulsant therapy, trigeminal neuralgia, herpes zoster, diabetic neuropathy, and such symptoms of subclassic vitamin B₁₂ deficiency (without anemia) as dimness of vision (due to optic atrophy) and cerebral symptoms . . . "The cerebral symptoms may be classified as mental and ophthalmological. The mental symptoms are extremely variable and include mild disorders of mood, mental slowness, memory defect which may be gross, confusion, severe agitation and depression, delusions and paranoid behaviour, visual and auditory hallucinations, urinary and faecal incontinence in the absence of overt spinal lesions, dysphasia, violent maniacal behaviour and epilepsy. None of these symptoms is pathognomonic, and in the absence of anemia or of spinal signs the diagnosis of vitamin B₁₂ deficiency may never be considered until the psychosis is far too advanced

to respond to treatment."¹⁶

Kaufman has described a new syndrome, with the following constant symptoms: ". . . increased fatigability, increased nervous irritability, mild impairment in memory and ability to concentrate, mental depression, insomnia and mild dysequilibrium. Inconstant symptoms included paresthesias, dyspepsia, difficulty in bladder control, and breathlessness associated with impaired heart muscle sounds. No patient had anemia. None had loss of vibratory sense. Few had redness of the tip of the tongue with smoothing of the lateral margins."¹⁸

According to Kaufman, this syndrome occurs in 40 patients and responds to intramuscular injections of 1,000 mcg. of vitamin B₁₂ once weekly.

Large doses of vitamin B₁₂ have also been reported to be decidedly effective in a considerable percentage of cases of neuroblastoma in very young children.³

A surprising preliminary report,⁴⁴ clearly requiring confirmation, is that vitamin B₁₂ at supraphysiologic levels is a hypocholesteremic agent. Another report which would seem suggestive while not yet confirmed, is that of Granirer¹³ who stated in *J.A.M.A.*, September 26, 1959: "From previous experience, it appears that therapy with phenylbutazone, gold salts, and vitamin B₁₂ is more effective than the usual therapeutic measures (for the treatment of ulcerative colitis). These may be administered continuously for long periods without ill-effects and under proper supervision appear to be useful adjuncts for the control of this disease. The response is gradual and usually requires 8 to 12 weeks. At no time need there be any dietary restrictions." . . . "There is evidence that this treatment is also beneficial in patients with regional ileitis (Crohn's disease)."¹³

Last year, Polgar and Spat reported: "In 199 cases of psoriasis, the authors have made therapeutic experiments with folic acid, vitamin C and vitamin B₁₂. The idea on which this therapy was based is the synergism of these substances. The best results were obtained with a combination of folic acid, vitamin C and vitamin B₁₂, which cured all symptoms in 66.3% of the patients."³³ The dosage of vitamin B₁₂ ranged from approximately 20 mcg. three times a week to 1,000 mcg. at unstated intervals. The dosage of

vitamin C varied from 200 mg. to 500 mg. daily. However, the dosage of folic acid may be described as "homeopathic" —0.018 mg. per day. If confirmed, the combined use of vitamins B₁₂ and C at supraphysiologic levels in the treatment of a previously extremely baffling dermatosis would represent a major advance in therapy with two vitamins administered for their synergistic effects as pharmacologic agents rather than nutritional factors.

As pointed out by Drs. Molitor and Emerson in 1948, large doses of a vitamin may be required for prompt reversal of pathologic changes due to vitamin deficiency³⁰ — always provided, of course, that the changes have not progressed too far for complete reversal. The higher than usual levels thus attained with vitamin B₁₂ may be used for diagnosis in patients with dim vision due to optic nerve involvement of unknown causation. If this dimness of vision or optic atrophy responds to vitamin B₁₂ at high levels, the diagnosis is achieved and the disorder is successfully treated. In BLOOD, April 1959, Hamilton, Ellis and Sheets reviewed the literature on optic neuropathy and visual impairment due to vitamin B₁₂ deficiency.¹⁴ According to the authors: "This review indicates that optic nerve involvement may be part of the pathologic findings directly attributed to Addisonian pernicious anemia. This nerve involvement is probably similar to other neurologic lesions of pernicious anemia. The clinical manifestations of optic nerve involvement may precede, coincide with or follow the symptoms and signs of anemia or subacute combined sclerosis."¹⁴ Hamilton et al. warn that "folic acid therapy can be followed with progression of optic atrophy in pernicious anemia. This reaction is similar to the explosive activation of subacute combined sclerosis in patients with pernicious anemia who were treated with folic acid. It is inadvisable to treat a person with optic atrophy of unknown etiology with folic acid without first excluding pernicious anemia as a cause."¹⁴

Verveen-Keulemans has recently pointed out that impairment of vision is sometimes an early symptom of vitamin B₁₂ deficiency and that it may precede the other symptoms of pernicious anemia.⁴⁵ Further, as indicated by reports in the literature, visual distur-

bances may arise in all forms of vitamin B₁₂ deficiency, and these disturbances are intensified by smoking.⁴⁵

Although clinicians have recommended the use of supraphysiologic levels of vitamin B₁₂ to promote recovery from viral hepatitis, the status of such therapy remains unclear. According to Sborov: "Vitamin B₁₂ has recently been advocated as a specific measure to shorten the course of acute viral hepatitis. The data presented are suggestive, but not conclusive, that improvement may result from its use. A principal advantage of vitamin B₁₂ is that it may be instrumental as an appetite stimulant in certain patients with anorexia, and possibly in this manner be effective in shortening convalescence. As with other vitamins, the side effects of vitamin B₁₂ are minimal."³⁷

More Evidence That Vitamin C Promotes Iron Absorption

Has the importance of vitamin C promotion of iron absorption been under-estimated? A 1956 report by Moore and Dubach states: "The addition of 0.25 to 1 gm. of crystalline ascorbic acid to a number of different foods increased iron absorption in every case . . ."³² This vitamin was also shown to increase iron absorption by patients with hypochlorhydria or achlorhydria. In an earlier study Moore had shown that "ascorbic acid increased the assimilation of iron to a greater extent in iron-deficient than in normal subjects."³¹ The use of radioactive Fe⁵⁹ in these researches add to their impressiveness.

In January 1960, Bonnet, Hagedorn and Owen,⁴ of the Mayo Clinic and Mayo Foundation, reported extensive confirmation of the observations of Moore and Dubach. "Four male subjects were given 0.5 ug. doses of ferric iron containing Fe⁵⁹, and three other men received the same dose plus about 300 mg. of ascorbic acid. In absence of the vitamin, absorption of the iron averaged 28 per cent (range 10 to 50 per cent); with the vitamin added, absorption averaged 65 per cent (range 56 to 73).

"However, the 28 per cent absorption of ferrous iron (ferrous ammonium sulfate) without ascorbic acid was no greater than that of the iron in trivalent form (ferric chloride), as determined in the next step. Seven subjects (five women, two men) received 50 ug. doses of ferrous iron contain-

ing Fe⁵⁹. The women absorbed 35 per cent (range 15 to 60) of the dose, the men 14 and 17 per cent.

"This observation led us to doubt that the effect of ascorbic acid on absorption of iron was related solely to reduction of the ferric iron. To resolve the problem ferrous iron was administered with and without ascorbic acid. Seven normal female subjects received nine doses of ferrous citrate (0.8 ug.) containing Fe⁵⁹, six with about 300 mg. of ascorbic acid added and three without the vitamin. The absorption averaged 40 per cent (range 21 to 54) for the former and 16 per cent (range 10 to 21) for the latter. In two subjects who received both doses, absorption increased from 10 to 21 per cent and from 18 to 36 per cent when the ascorbic acid was added. As all the iron in this experiment was in the ferrous form, the ascorbic acid appears to influence the absorptive process directly. The doubling of absorption with addition of the vitamin must be attributed to some phenomenon other than its reducing power — for instance, chelation."⁴

For Alcoholics — Extraordinarily High Levels of Vitamin C

In February 1960, Lester, Buccino and Biz-zocco reported investigations of the vitamin C status of alcoholics.²³ These Yale University researchers found that the use of large doses of vitamin C daily was required to correct promptly the initial deficiency in alcoholic patients. "Prior to supplementation, the percentage excretion of a 500 mg. oral test dose of vitamin C was significantly lower for 85 alcoholic patients upon hospital admission than for 23 non-alcoholic subjects. Significantly more alcoholic patients than non-alcoholic were deficient in vitamin C, although a significant proportion (0.39) of non-alcoholics also were deficient.

"The level of vitamin C excretion of the non-alcoholic subjects was raised to saturation value by administering 500 mg. of vitamin C daily for a week; 34.9% excretion of an oral, test dose in 4 hours approximates the true saturation value.

"Daily supplementation with 250 mg. was inadequate to correct the initial deficiency in the alcoholic patients; at least 500 mg. of vitamin C daily for a week is required in such patients before placing them upon a maintenance regimen."²³

As noted in the discussion of vitamin B₁₂, large doses of vitamin C and B₁₂ have been reported beneficial in a surprisingly high percentage of patients with psoriasis.

Niacin and Niacinamide — New Surprises

In 1958, Meneghini and Piccinini reported that niacin has fibrinolytic activity (see ARCH. E. MARAGLIANO 14:69, 1958). In CIRCULATION (June 1959), Weiner and associates reported that niacin (10 to 100 mg. intravenously, 50 mg. intramuscularly and 100 mg. intra-arterially) produced marked fibrinolytic activity in human subjects.⁴⁷ "In 17 of the 18 experiments, distinct fibrinolytic activity was noted without any significant alteration in the prothrombin complex as measured by a 1-stage technic, recalcification time, antithrombin activity, or heparin tolerance. Fibrinolytic activity was usually maximal about 5 to 20 minutes after injection and then became less intense but occasionally as still detectable after 1 to 2 hours . . . Larger intravenous doses resulted not only in more rapid completion of lysis 20 minutes after injection but also in persistent lysis 1 hour after dosage."⁴⁷ Niacinamide did not cause fibrinolytic activity.

Confirmatory data have recently been published by Wilson and Fostiropoulos,⁴⁸ who state: "The fibrinolytic effect of nicotinic acid is apparent." (This effect was not produced with niacinamide.)

. . . "By utilizing a slow intravenous infusion of nicotinic acid diluted to 1 mg. per ml. in 5% glucose, the same degree of fibrinolysis as with a single intravenous dose was obtained. However, the former method of administration avoids the 'flush' and nausea which accompany a single injection given over a period of 4 minutes. The degree and the duration of the activation were of the same magnitude. Repeat infusions after a short interval during which time the activity disappeared, were accompanied by reactivation of approximately the same degree." . . .

"At this time very little is known about the mechanism by which nicotinic acid activates plasminogen. It is not a direct activator as the addition of nicotinic acid to blood in vitro causes no increase in fibrinolytic activity. The activity is undoubtedly associated with a normal activator which is released by the nicotinic acid. It is probably not dependent on the mechanism that produces the 'flush'

that is observed with intravenous and oral doses."⁴⁸

In Beckman's pharmacology, **DRUGS, THEIR NATURE, ACTION AND USE** (1958), Beckman discusses the clinical uses of niacin in angina pectoris, mental depression (though a satisfactorily controlled large series of cases has not been reported), toxic confusional states,* Meniere's syndrome, and rheumatoid arthritis.² According to Beckman, the rationale for the use of niacin in rheumatoid arthritis has been predicted on the assumption that pharmacologic doses may induce relief by improving circulation in joints and muscles; "in general the response has been better in patients in an early stage of the disease than in those more advanced, but there are disappointing failures in all categories."² Beckman states that, when used, this treatment of hospitalized rheumatoid arthritis patients is begun with intravenous infusion of 100 mg. niacin in 200 ml. of 0.05% saline or 5% of glucose during 60 to 90 minutes.

In the **CANADIAN M.A.J.**, August 15, 1959, Hoffer discussed at some length the use of niacin and niacinamide in the treatment of arthritis.¹⁵ Hoffer refers to the clinical studies of Dr. William Kaufman of Bridgeport, Connecticut. Since 1941, Kaufman has used massive doses of niacinamide. The remarkable successes reported by Kaufman have encouraged Hoffer to use both niacin and niacinamide in the treatment of arthritis. Some patients have objected to the severe flushing following a large dose of niacin. Others have complained about its "acidity." "Slow-release and buffered preparations have overcome these difficulties. Some patients feel that the flushing is beneficial."¹⁵ . . . "In my opinion, nicotinamide would be preferable for uncomplicated rheumatic disease while nicotinic acid, because of its hypocholesterolaemic action, is preferable for aged patients or patients who have a raised blood cholesterol."¹⁵

Pantothenic Acid at Supranutritional Levels

Pantothenic acid is now prescribed for hypoperistalsis following surgery and childbirth. Among the recent favorable reports are those of Wagner and Melosh (**WEST. J. SURG.**, September-October 1959)⁴⁶ and of Frazer, Flowe and Anlyan (**J.A.M.A.**, March

7, 1959).¹¹ This vitamin has been given mainly in the form of its alcohol, administered intramuscularly.

New Uses for Vitamin B₆

As is well known, vitamin B₆ in high doses is used to prevent and treat neuritis caused by isoniazid. Clinical use of the vitamin, in the prevention of side effects of cycloserine, is also routine. The following recommendation is made by Lich in **DRUGS OF CHOICE** 1960-1961, page 694: "Because of its serious neurotoxic properties cycloserine must always be accompanied by pyridoxine hydrochloride which prevents the neurotoxic manifestations of severe vertigo, mental disturbance, and convulsions.

"Dosages of 2 Gm. daily with 300 mg. of pyridoxine hydrochloride are necessary, particularly in seriously ill patients."²⁵ Vitamin B₆ is a versatile "anti-side effect" vitamin.

In this connection, the possible production of a chronic subclinical deficiency of pyridoxine by prolonged treatment with iproniazid is of interest. According to Coursin: "A direct deficiency-producing effect (of iproniazide), such as that seen with isonicotinic acid hydrazide and pyridoxine, remains to be demonstrated. However, it is quite possible that the prolonged administration of iproniazid may produce a chronic subclinical deficiency of vitamin B₆ in humans that could contribute to iproniazid toxicity. . ."⁷

The Future . . .

Here are two fascinating questions: (1) When supraphysiologic levels of a vitamin have therapeutic effects in a disorder not believed to be due to deficiency of the vitamin, could this favorable response in some instances be attributed to the existence of a deficiency state not previously suspected? (2) Do vitamins at supraphysiologic levels have "mass" effects because of localized deficiencies — also not previously thought to exist? Research alone can tell us. The future extension of clinical uses of supraphysiologic levels of vitamins also depends upon researches to come.

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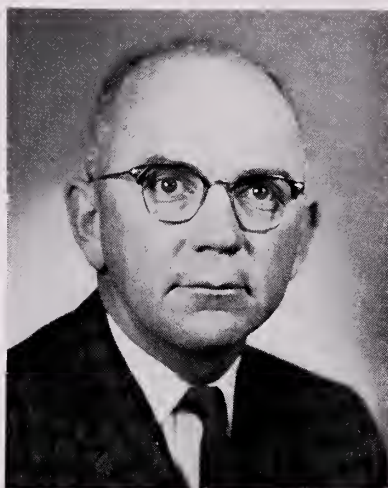
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PRESIDENT'S PAGE

Rx



It is every community's responsibility to provide emergency readiness by organizing active participation and dispersing of important information to its people concerning all phases of Civil Defense. We as pharmacists — an important member of the professional team — are an important link in enabling a valued role in disaster preparedness and control.

By this, a larger portion of the population can be reached regularly and repeatedly through contacts with pharmacists than by any other means. Because the pharmacist meets people individually, not seldom, but several times a week, he establishes contact as an important center of this education.

If the pharmacies in the country become centers of information for disaster preparedness, I am sure citizens will be more informed and ready.

Your president requests all members to participate and be active in local organizations concerning Civil Defense. Work along with members of the medical team. Join when asked to serve.

Your State officers will organize a program that will assist you in your particular locality. This information will be forwarded to you as we receive it, and I encourage all members to become active and lead in this training and educational program in their respective community.

Respectfully,

Albert H. Zarecky



Rx PHARMACY

News

75th ANNIVERSARY CONVENTION SCHEDULE SET

The 75th Anniversary Convention of the South Dakota State Pharmaceutical Association has been scheduled for Sunday, Monday and Tuesday, June 18, 19 and 20.

The host city for the event is Rapid City, South Dakota.

The Rapid City Pharmaceutical Association has selected Donald W. Knutson as local secretary in charge of the affair. Mr. Knutson is pharmacist-manager of the St. John's McNamara Hospital Pharmacy.

In announcing the dates of the 1961 Convention, it was pointed out that reservation for housing during the Convention should be made at an early date due to the heavy volume of tourist business usually accommodated in the Rapid City area at that time of the year.

NEW EDITION OF PHARMACY CAREERS BOOKLET OFFERED

A new edition of the 32-page booklet, "Your Career Opportunities in Pharmacy," is being offered free to educational and professional groups and interested students by the Pfizer Laboratories and J. B. Roerig divisions of Chas. Pfizer & Co., Inc.

The first edition of 450,000 copies, published two years ago as a service to pharmacy, was completely distributed earlier this year, the firm announced.

Minor changes were made in the text and several new illustrations were added to bring the booklet up to date.

In an introductory note attached to the booklet, Pfizer president John E. McKean said the first edition was distributed on request to almost all 76 U. S. colleges of phar-

macy, and to working pharmacists, high school guidance counselors, "career-minded students" and school libraries. A copy also was sent by the National Science Teachers Association to every high school science teacher in the country.

More than 4,000 booklets also were distributed in the Pfizer-Roerig "Say-It-Yourself" public relations kit to retail and hospital pharmacists, who were invited to send for more copies to use in local student recruiting work.

Mr. McKean said Pfizer is "deeply interested in insuring the future of pharmacy as a dynamic and growing profession."

The company reported it is filling back requests for some 30,000 booklets, received after the first edition was exhausted. Copies are available on request from the

Educational Service Department, Chas. Pfizer & Co., Inc., 800 Second Ave., New York 17, N. Y.

FIFTEEN PASS JANUARY BOARD EXAM

Fifteen candidates passed the South Dakota Board Examination for Registered Pharmacist at Brookings, January 11. The oral and practical portion of the state examinations were given. The candidates had already taken the written portion and fulfilled state law by completing the internship requirement before taking the practical.

The newly registered pharmacists are:

Melvin J. Anderson
Marshall B. Davis
Greta L. Houtman
(DeBates)
Larry V. Detmers
Harold L. Doeden
James G. Grosenick
Dennis R. Hoogland
Bruce R. Johnson
David P. Koster
Donald K. Lord
Cornelius C. O'Hearn
Owen R. Pool
Verlyn L. Smith
Le Roy C. Stacey
Roberta M. Herzog
(Taylor)

Board members present at the examination were Roger Eastman, President, Platte; A. O. Bittner, Aberdeen; and Ted Hustead, Wall. Secretary Bliss C. Wilson, Pierre, and Inspector Harry Lee, Alces-tor, assisted with the examination.

FACTS OF INTEREST TO DRUGGISTS

**One order from a retail druggist
to his drug wholesaler involved
83 different items from 68 sup-
pliers located in 35 cities in
twenty different states.**



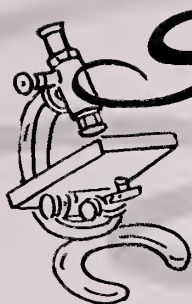
DRUGGISTS MUTUAL

INSURANCE COMPANY

HOME OFFICE

ALGONA, IOWA

**Druggists Mutual takes pride in
the dividends returned to policy-
holders since our founding over
half a century ago...the total
runs over \$3,090,000.**



Scientific

P A P E R

The Current Status of ABO and Rh Incompatibility in Obstetrics

**Warren H. Pearse, B.S., M.D., Associate,
Department of Obstetrics and Gynecology,
University of Nebraska
College of Medicine**

Paper presented at Sacred Heart Hospital,
Yankton, to Staff and Faculty and Class, Uni-
versity of South Dakota School of Medicine,
Nov. 17, 1960.

The problems of the Rh negative mother and her reproductive career are well known to physician and laymen alike, and there has been increasing interest among the medical profession in the past several years to the problem of maternal-fetal ABO incompatibility. A review of recent developments and the current status of these closely allied fields seems appropriate.

Since the title specifies "Current Status," I will largely exclude historical background and a detailed genetic analysis. Since the title also specifies "ABO and Rh," I will not include discussion of the various and uncommon minor group incompatibilities, and since specifying "Obstetrics" I will not include the postulated relationships of the ABO blood groups in such disease processes as gastric carcinoma, peptic ulcer, pernicious anemia and so on. The discussion will be pointed to the consideration of the ABO and Rh blood group systems and their relation to 1) infertility, 2) spontaneous abortion and 3) late pregnancy and the newborn.

By way of introduction, there can be little doubt that these blood group systems have a considerable effect on human reproduction. The Rh positive baby of the Rh negative mother is at a definite disadvantage, and

these heterozygotes should be gradually disappearing, with a corresponding increase of Rh negative individuals. This change is apparently not taking place, and there must be other unrecognized factors involved. As a second example, there is the well known and considerable variation in the percentage of blood groups A, B, O and AB in different races and geographic areas. In theory these should remain relatively constant with random mating, and it has to be assumed that either isolation of population groups or natural selection of a considerable degree has been involved. It is these possible and actual effects of blood group systems on fertility and pregnancy that are to be considered.

Infertility

Several studies^{2, 3, 6} have shown that incompatible matings from the ABO blood group standpoint produce fewer living children than do compatible matings. Figure I illustrates "compatible" and "incompatible" matings (husband and wife) which should be carefully distinguished from incompatible pregnancies (mother and baby). Perhaps the first light was shed on a possible mechanism for this deficiency by the work of Behrman.¹

Figure I

INCOMPATIBLE MATINGS

MOTHER	FATHER
Rh negative	Rh positive
O	A, B, AB
A	B, AB
B	A, AB

It is well known that most individuals are 'secretors'; that is, they carry the ABO blood group antigens not only on the red blood cells but in many body fluids in addition. Males have also been shown to carry these antigens on spermatazoa. Antibodies to the ABO system were demonstrated in cervical secretions, and thus an antigen-antibody reaction was postulated that would immobilize sperm in "incompatible" matings. The theory appeared to be borne out in a group of 102 infertile couples in whom no standard cause of reproductive failure could be found on thorough study. Eighty-nine (87%) of these couples were "incompatible" matings as opposed to only 39% in the general population.

Infertility presumed to be on such a basis

is not presently treatable, but blood groups of both prospective parents should be a necessary part of routine fertility studies.

Spontaneous Abortion

Studies on large population groups, as noted above^{2, 3, 6}, have shown that there is a highly significant deficiency of blood group A children from matings of group O mothers and group A fathers. An increased early abortion rate has been reported as one cause of this deficiency.⁵ The embryo will carry an incompatible antigen and presumably the glands of the endometrium will secrete the same type of antibodies as those found in cervical secretions, so that an antigen-antibody reaction is again possible. By no means all early spontaneous abortions are due to this cause, of course, but certain unexplained instances may well be. Future studies may be expected to give us more information on the magnitude of this problem.

The question often asked by patients is whether Rh incompatibility can cause abortion. So far as we presently know, these effects mentioned under infertility and abortion relate entirely to the ABO blood group system and do not involve the Rh group. Again, unexplained or habitual aborters should have blood group determinations on wife and husband as a part of investigation, although no present treatment is available.

Erythroblastosis Fetalis

The problems of fetal erythroblastosis, stillbirth and hemolytic disease of the newborn can best be discussed by comparing Rh and ABO disease under four headings: 1) incidence, 2) mechanism of sensitization, 3) diagnosis and 4) management. The discussion will again be restricted to these two major blood group systems and will not include other blood groups or hemolytic disease due to other causes such as drugs or genetic effects.

Incidence

Figure II notes the potential incidence and the actual occurrence of erythroblastosis in an average caucasian population in the United States. Since about 15% of women are Rh negative, and about 85% of their husbands will be Rh positive, about 12% or 120/-1000 will be incompatible matings in the Rh system. The reverse situation, that is the Rh negative husband with an Rh positive wife is, of course, not attended by the birth of

Figure II
INCIDENCE

MOTHER	FATHER	POTENTIAL INCIDENCE per 1000	ACTUAL INCIDENCE per 1000
Rh neg.	Rh pos.	120	6
O	A or B	100	12

erythroblastotic infants. The potential incidence figures for ABO incompatibility are derived from Figure III, noting that such incompatibility is rare with any combination other than Mother O - Father A or B, and that only children who are subgroup A₁ or B are affected.⁷ Thus, only the 10% of all infants who are A₁O or BO are potential candidates for hemolytic disease of the newborn.

The actual incidence represents those cases observed clinically, although admittedly the cases due to ABO incompatibility are often milder than those due to Rh incompatibility and indeed may sometimes pass unrecognized or be dismissed as "physiologic jaundice."

Figure III
INCIDENCE OF HEMOLYTIC DISEASE
DUE TO ABO INCOMPATIBILITY

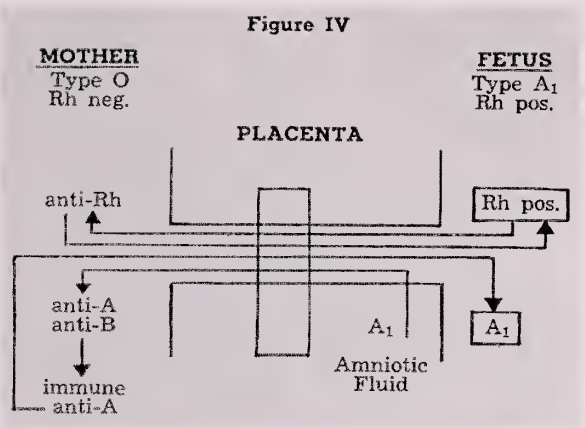
Mother	O	Father	A	(19%)
Child may be		A ₁ O		(8%) *
		A ₂ O		(3%)
		OO		(8%)
Mother	O	Father	B	(4%)
Child may be		BO		(2%) *
		OO		(2%)

* ABO incompatibility is rare with any other blood type combination.

Mechanisms of Sensitization

Many of the differences noted between the two blood group iso-immunizations are due to the different mechanism of sensitization. In Figure IV the mechanisms are diagrammatically illustrated.

In Rh immunization it is necessary for whole fetal red blood cells to gain entrance to the maternal circulation. This presumably can occur through small breaks or defects in chorionic villi late in pregnancy. These Rh positive cells cause antibody production in the mother, but since this occurs near term there is little opportunity for transmission of significant amounts of antibody back to the fetus. Thus, hemolytic disease of the newborn is rare with the first baby in the ab-



sence of previous direct blood transfusion of Rh incompatible blood.

In ABO immunization, as was previously mentioned, the A or B antigens are carried not only on red cells, but in "secretor" individuals antigens are present in body fluids also — as examples, saliva, semen and amniotic fluid. As indicated in Figure IV it is not necessary for an entire red blood cell to gain entrance to the maternal circulation. Antigenic material from the amniotic fluid can be absorbed into the umbilical cord or swallowed by the fetus and thus passed to the maternal circulation through an intact villus. ABO sensitization thus occurs more commonly than Rh, and may readily occur with the first pregnancy.

Any group O individual has natural antibodies or agglutinins to both A and B antigens. Thus the fetal A antigen appears not to stimulate more of the natural antibody, but rather to form a new or variant antibody — the so called "immune anti-A." This immune anti-A then passes through the placenta and into the fetal circulation.

There is one final difference in the two processes — the Rh antigen sites on the fetal red cells are better developed at birth than are those of the ABO system. If Rh antibodies are transmitted to the fetus they will combine with the fetal cells without difficulty. On the other hand, although anti-A or B may be more readily produced, even when present in the fetal circulation it does not necessarily combine with or hemolyze the fetal blood cells. For this reason, although ABO incompatibility is more common (Figure II), it is usually less severe.

This mechanism accounts for one other fact about Rh sensitization; that hemolytic

disease due to the Rh factor is less likely to occur when the parents are ABO incompatible than when they are compatible.⁴ If an Rh positive type A red cell from the fetus gains access to the group O mother's circulation, it will be agglutinated by the maternal anti-A present and have no opportunity to sensitize the mother. If, however, both baby and mother are group O the fetal cells can circulate freely in the maternal blood stream and stimulate Rh antibody formation.

Diagnosis

Prenatally, the use of maternal Rh antibody titers is well known. Specific dilution reports (i.e. 1:8, 1:32) are subject to many minor laboratory errors, and unless each serum specimen obtained from an individual is frozen and they are all re-analyzed simultaneously, the so-called "rising titer" is of little significance. Three recent cases bear this out. The first was a patient with a previous stillborn erythroblastotic infant. Her albumin Rh titer in early pregnancy was 1:4 and it remained unchanged throughout pregnancy until the fetus again died in utero at 34 weeks gestation. The second individual had an albumin Rh titer of 1:128 at four months which gradually fell to 1:32 at 35 weeks. She was delivered at 36 weeks of a severely hydropic infant which survived less than an hour despite immediate transfusion. A third patient had an albumin Rh titer which gradually rose to 1:256 at 35 weeks, and she was delivered one week later of an entirely normal infant which was Rh negative. Antibody titers can indicate sensitization, but changes in titer level are not necessarily prognostic.

It is possible to test for ABO immune antibodies in the mother's serum prenatally by first neutralizing the natural antibodies but so far it has not been possible to correlate these with infant hemolytic disease. More involved hematologic techniques and chromatographic identification of antibodies are being used experimentally, and a practical clinical method may be anticipated in the future.

At the time of birth with suspected hemolytic disease due to either cause investigation of the newborn is mandatory; Five laboratory tests should be carried out: 1) Direct, and if necessary Indirect Coomb's test, 2) Total serum bilirubin, 3) Blood type and Rh, 4) Hemoglobin and 5) Reticulocyte count. If

there is a free flow of blood from the cord this is a satisfactory source, but if not blood should be obtained directly from the baby.

The Direct Coomb's test reveals coating of the red cells with antibody and should be positive in the case of Rh isoimmunization. Since, as noted above, the red cells in ABO iso-immunization often do not bind antibody well, the Indirect Coomb's test measuring antibody in the newborn serum is more accurate in this type of hemolytic disease. The bilirubin gives an indication of the degree of blood destruction, as do the hemoglobin and reticulocyte count, but it must be recalled that until birth the placenta will remove bilirubin, and higher levels in the newborn are not found until 24-36 hours have elapsed.

Management

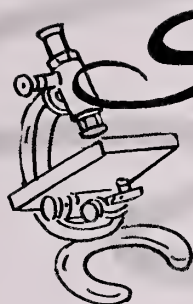
Every obstetric patient should have a blood type and Rh determination. If she is either type O or Rh negative, the same tests should be carried out on her husband.

If the mother is Rh negative and her husband Rh positive, an antibody titer should be carried out as early as possible in pregnancy to determine whether or not previous sensitization exists. A repeat titer is advisable at about 34 weeks gestation, but determination of the mode of delivery is based primarily on previous history. If there has been a previously affected infant and the titer is positive, delivery is elected at or shortly after 36 weeks gestation, provided baby size seems adequate. If previous children have been normal and the titer is not strongly positive, delivery at term would be elected. Prompt newborn study and care should be arranged for either circumstance.

Since ABO sensitization cannot presently be determined prenatally, pre-term delivery would be conducted only with previously affected infants.

The affected infant should have prompt exchange transfusion. Varying criteria for the procedure may be found in pediatric thought and all tests mentioned should be considered. In general, a positive Coomb's test accompanied by an initial bilirubin greater than 3.5 or 4.0 mgms. % indicates an infant requiring exchange transfusion. These should be repeated as necessary to keep the serum bilirubin level below 20 mgms. %, since above this level kernicterus with all its sequelae begins to develop.

(Continued on Page 108)



Scientific

P A P E R

PRACTICAL ISOTOPE TECHNICS IN CLINICAL MEDICINE

**RICHARD E. OGBORN, M.D.
CHIEF, RADIOISOTOPE SERVICE
VETERANS ADMINISTRATION
HOSPITAL
Omaha, Nebraska**

Presented at the Fellow American College of Physicians, First South Dakota Regional Meeting, Vermillion, South Dakota, October 1, 1960.

The clinician's diagnostic ability and his service to humanity rests on his talents of observation, examination and logic. The clinical laboratory serves as support to his logic. Specialized laboratory technics such as those employing radioisotopes serve, then, only as an aid in confirmation or denial of the differential diagnosis. Greatly improved accuracy in measuring pathophysiological dynamics is now available through the use of radioisotopes. The value, though, of even such accurate determinations is exclusively dependent upon the physician's ability to integrate them with the clinical findings of the disease process.

Practical radioisotope procedures available today aid the physician in obtaining valuable information in these 10 categories — thyroid pathology, hematology, hemorrhage, liver function, circulation, brain tumor localization, kidney function, pancreatic function, gastrointestinal absorption, and therapy.

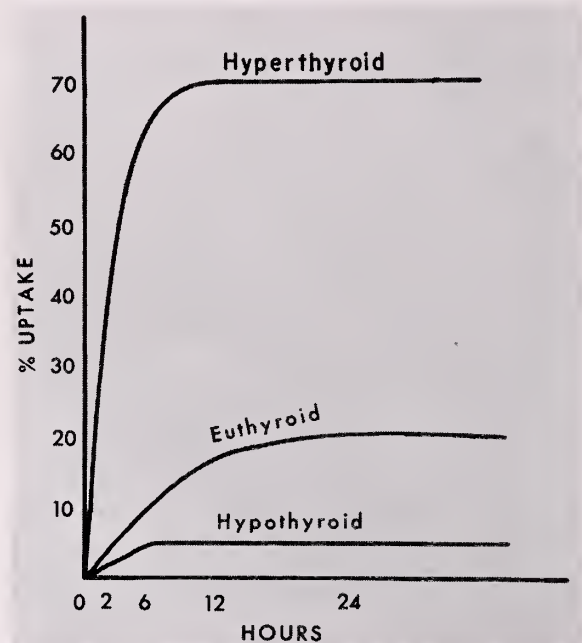
Following is a resume of practical diagnostic aids in two of these categories — thyroid pathology and hematology.

Radioactive iodine, the oldest and perhaps the most experienced isotope in medical science, serves as a diagnostic tool in thyroid

disfunction, tumor differentiation, and metastatic localization.

Multiple tests, of the thyroid metabolism of iodine, have been evolved based upon the removal of serum iodide ions by two competing mechanisms in the body — the concentration and metabolism of iodide by the thyroid gland, and the excretion of the ion by the kidney. All of these tests have had strong vocal proponents. Each type, such as the percentage uptake of iodide, the rate of uptake of the gland, the kidney excretion tests, and the rate of hormonal production tests is 80-90% correlative with clinically proven hyperthyroidism or hypothyroidism.

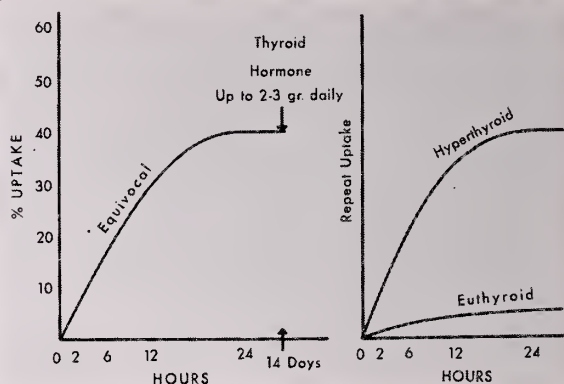
There are equivocal results in all of these tests (Fig. 1). There is intermixing of values obtained between the low normal and hypothyroid individuals, and between the high normal and hyperthyroid (gray zone). The thyroidal iodine clearance tests are the best ones to differentiate these gray zones, yet are too complex for routine use.



A modification of the simple 6 and 24-hour percentage uptake method has been devised and proven 95-98% effective in separating the doubtful cases.

In the case of a suspected primary hypothyroid individual, an uptake is performed. If the result is equivocally low (8-12%) the patient receives an injection of thyroid stimulating hormone (TSH). Five units of Ar-

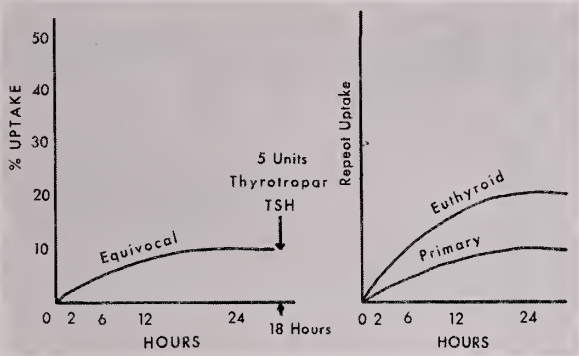
mour's Thyrotropar thyroid stimulating hormone are injected intramuscularly 18 hours before a repeat test is performed. After calculating the residual from the first test and subtracting it from the second, we examine the difference. In the case of a primary hypothyroid individual, there is no increase in the uptake of iodine. In the euthyroid individual, there is at least a twofold increase and the uptake has always exceeded 15% in our laboratory (Fig. 2). This test has proven 98% correlative with final diagnosis of primary hypothyroidism. It is based on the physiological premise that a thyroid gland, already stressed by excessive TSH, is working at a maximum rate and the additional stress imposed by the 5 units of TSH stimulation does not increase this rate. In a person whose thyroid gland is functioning normally but concentrating only a small amount of radioactive iodine, the stress of 5 units of TSH is reflected in an increase of iodine.



In differentiating between a hyperthyroid and euthyroid individual, again, a test utilizing an accepted physiological theory is used. This theory states that the level of circulating thyroid hormone is the regulatory mechanism controlling the output of TSH from the pituitary gland. In turn, TSH regulates thyroid function.

In Grave's disease, this normal regulatory mechanism is ignored. If there is clinical and laboratory doubt in the diagnosis of hyperthyroidism, the following regimen is used. A routine iodine uptake is performed. If the result is equivocally high (45-55%), fresh desiccated thyroid is started — $\frac{1}{4}$ grain is given daily for 3 days and the dose doubled every 3 days until patient has taken 3 grains per day for 3 days.

At the end of this regimen, a second uptake is performed. After subtracting the residual, the results are examined. If the patient is hyperthyroid, his uptake will remain in the previous range (45-55%). If the patient is euthyroid, the uptake of iodine will be suppressed to very low levels (5%) by the circulating thyroid hormone which has been exogenously prescribed (Fig. 3).



A physician must keep in close contact with his patients, warning them to report any increase of symptoms relating to their hyperthyroid state, i.e., fever, increased pulse, palpitation — which would be of diagnostic value in itself.

Because of the thyroid's ability to concentrate and store iodide, the configuration of functioning tissue may be determined from outside the body. A physician may "see" overactive or non-functioning areas within the gland. He can more closely estimate the size and position of functioning thyroid tissue and in certain cases, locate metastatic thyroid-like tissue. The amount of remaining tissue or degree of extirpation of malignant tissue can be estimated postoperatively.

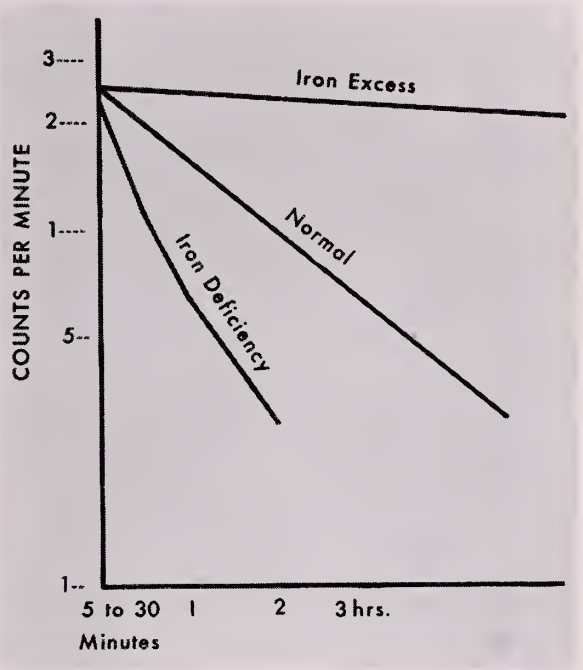
After total ablation of the thyroid gland, certain metastatic lesions, i.e., those containing enough follicular tissue to store iodine, often become functional. These tumors may be located and treated in their earliest period by giving tracer doses of radioactive iodine.

In the field of hematology the cause of anemia has been one of the commonest problems facing the physician. With radioactive materials the rate of formation of erythrocytes can be determined. The maturation function may be examined. The exact red cell mass or plasma volume may be ascertained, and the rate of loss of red cells accurately

described. These tests, then, may aid in differentiating the reasons for anemia.

The intricacies of iron metabolism and erythropoiesis have been greatly clarified by the use of iron-59 in tracer studies. The absorption of iron through the gut wall in health and disease states has been studied by the rate of appearance of radioactive iron in the plasma and the measurement of fecal excretion of this ion. Radioautographic techniques have aided in the establishment of the theory of the transferrin absorptive mechanism.

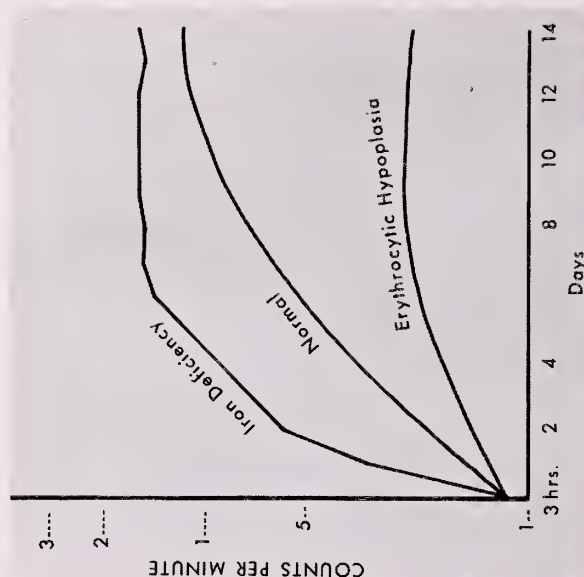
The rate of iron disappearance from plasma in normal and abnormal conditions has been determined and reflects the degree of the functional capacity of the bone marrow (Fig. 4). The rate of integration of iron into



new red cells and their appearance in the peripheral blood is, likewise, evidence of bone marrow function (Fig. 5).

Vitamin B₁₂ is a necessary ingredient in the process of maturation of red cells. The Schilling test is one in which approximately two micrograms of the radioactive vitamin are ingested and two hours later 1000 micrograms of unlabeled B₁₂ injected to saturate the body stores.

Urinary excretion of the radioactive substance is much less in patients with pernicious anemia than in normal individuals. By retesting these individuals in the same



manner but feeding intrinsic factor at the time of ingestion of the radioactive vitamin B₁₂, an increase toward the normal levels of excretion is accomplished in patients with pernicious anemia. Two members of the American College of Physicians from Nebraska — Drs. J. M. Holthaus and J. R. Walsh have shown this test to be valid even in those patients with reduced kidney function if urinary collections are continued for a period of 72 hours.

THE CURRENT STATUS OF ABO AND Rh INCOMPATIBILITY IN OBSTETRICS—

(Continued from Page 104)

SUMMARY

The problems of reproductive loss due to incompatible pregnancies in the ABO and Rh blood group systems have been considered as they relate to fertility, early abortion and erythroblastosis fetalis. The problems of hemolytic disease of the newborn have been discussed in more detail from the standpoints of incidence, diagnosis, mechanisms of sensitization and current management.

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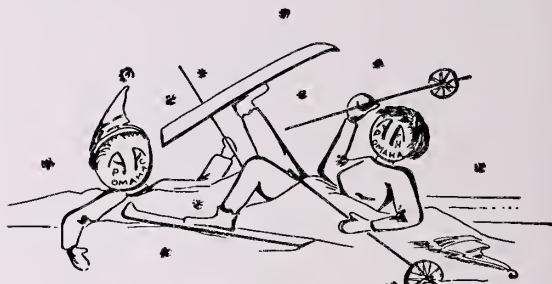
One of the most accurate ways to measure red cell volume in vitro is by means of radioactive chromium (Cr-51). Neither hemoconcentration nor dilution affect the results of this procedure.

Once bound to the red cell, Cr-51 remains tagged to that cell for its lifetime. Thus, red cell survival time may be determined.

Human albumin may be tagged with radioactive iodine, and a known volume with a known specific radioactivity injected into the patient's blood stream. Its distribution throughout the body for the first half hour approximates the plasma space. By taking a blood sample within 30 minutes, the total plasma volume may be determined by the dilution principle.

Radioactive isotopes of iodine serve as aids in determining thyroid function, location and configuration, and malignancy. Isotopes have become an important aid in medicine by determining the rate of red cell production, total blood volume, red cell survival, and in establishing the functioning ability of bone marrow.

Many of the isotopic procedures are available and practical, and have produced very satisfactory results.



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**COUNCIL MEETING
SOUTH DAKOTA STATE MEDICAL
ASSOCIATION**

January 15, 1961

Marvin Hughitt Hotel, Huron, S. D.

The meeting was called to order by Chairman J. J. Stransky, M.D., at 12:30 P.M. Present for roll call were Drs. C. Rodney Stoltz, C. J. McDonald, Magni Davidson, A. P. Reding, R. H. Hayes, R. A. Buchanan, A. A. Lampert, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, N. E. Wessman, T. H. Sattler, J. D. Bailey, H. E. Lowe, E. A. Johnson, attorney Karl Goldsmith, executive secretary John C. Foster, assistant executive secretary Phyllis Sundstrom, and chairman of the Committee on Legislation, H. Russell Brown, M.D. Absent were Drs. P. P. Brogdon and E. P. Sweet.

Dr. Tank moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they had been published. The motion was seconded by Dr. Stoltz and carried.

The report of the Committee on Medical Economics was read concerning tabling any action on a unified retirement trust. A motion was made by Dr. McDonald to accept the Committee's recommendation. Seconded by Dr. Hohm and carried.

Dr. Lampert and Mr. Foster discussed indigent medical care. Dr. Sattler moved that a dollar coefficient of \$3.50 per point be applied to the South Dakota State Medical Association's Relative Value Study for indigent care programs, and that such figure be submitted to the District Societies for consideration. The motion was seconded by Dr. Hayes and carried.

The report of the Committee on Medical Licensure which recommended making no changes in the Basic Science Law at this time. A motion was made by Dr. Sattler to accept the Committee's recommendation. Seconded by Dr. Davidson and carried.

Dr. Sattler moved that the Relative Value Study be made available to any bona fide applicant and that a reasonable charge be made therefore. The motion was seconded by Dr. Hohm but the motion lost on a roll call vote. Dr. Stoltz moved that the Relative

Value Study be made available only to agencies actively negotiating with, or anticipating negotiation, with the South Dakota State Medical Association. The motion was seconded by Dr. Tank and carried.

Dr. Tank moved that the Council accept the South Dakota State Medical Association Building Fund Financial Report as follows:

**SOUTH DAKOTA STATE MEDICAL
ASSOCIATION BUILDING FUND
FINANCIAL REPORT**

12/30/60		
INCOME		
Loans	\$79,463.75	
Gifts	13,159.71	
Rent	4,665.00	
Interest (90 day note)	184.00	
Total		\$97,472.46
EXPENSES		
Attorney	\$328.00	
Miscellaneous (bank charges, janitor supplies, survey, Reetz studio)	167.90	
Property	5,400.00	
Architect	4,592.00	
Pipelines	315.00	
Swedes Electric	5,993.16	
Tessier Sheet Metal	7,052.00	
H. Carlson Const. Co.	54,798.89	
Furniture	6,380.39	
Insurance	69.56	
R. Howe Plumbing	4,420.22	
Landscaping	886.00	
Interest	1,572.99	
Utilities (6 mo.)	546.38	
Loans repaid	359.13	
Janitor	198.71	
Total		\$93,080.33
Bank Balance	4,392.13	
TOTAL		\$97,472.46
Still to pay		
Henry Carlson Construction Company	\$8,745.57	
Uncollected Loans	\$4,190.00	

Dr. Reding seconded the motion and it was carried.

Dr. Hohm moved that the Council select Dr. R. A. Buchanan for the Community Service Award to be given at the Annual Meeting in May. Motion seconded by Dr. Stoltz and carried.

Dr. Stoltz moved that the wall placard "Want Socialized Medicine?" be printed up and distributed to the physicians of South Dakota. The motion was seconded by Dr. Reding and carried.

Dr. McDonald moved that the recommen-

dation of the Medical Legal Committee, which is the plan adopted at the Medical Legal Conference for a medical expert panel, be approved and implemented and that the Committee on Constitution and Bylaws be instructed to provide for such a plan. Motion seconded by Dr. Stoltz and carried.

The Executive Committee's report was read as follows:

The Committee first considered the proposed Memorandum of Understanding which has been submitted by the Public Health Service for care of the Indians. The proposal had been referred to the Executive Committee by the Council for consideration and recommendation. Mr. Spatafore and Dr. McNaughton of the Indian Agency Health Office in Aberdeen appeared before the committee and discussed the proposal and answered questions from the members of the Committee. After much consideration Dr. Stransky moved that the Executive Committee recommend to the Council that the Medical Association set up a standard figure of \$3.50 per unit on all services in the Memorandum of Understanding as a basis for negotiations with the Public Health Service Indian Agency Office. Dr. Davidson seconded the motion and it was carried.

The Committee then considered the question of payment of travel expenses to committee members for out of state travel on Medical Association committee business. Dr. Davidson moved that the Executive Committee recommend to the Council that the Association dispense with paying anything to members of the Association for travel to meetings within the State. The motion was seconded by Dr. Reding and carried. Dr. Stransky moved that the Association pay the full expenses of the duly elected Delegate and Alternate Delegate to the Regular and Interim Sessions of the American Medical Association. Dr. Davidson seconded the motion and it was carried.

Dr. Davidson then moved that authorization for other travel out of the state by individuals representing the State Association shall be made by prior approval of the Secretary-Treasurer, the request being routed through the Executive office. Dr. McDonald seconded the motion and it was carried. Dr. McDonald moved that actual transportation costs, plus one-half of the other expenses

should be paid. Dr. Reding seconded the motion. After discussion Dr. Stransky introduced a substitute motion that the Association should pay actual travel expenses plus the actual hotel room expenses for authorized out of State travel. The motion was seconded by Dr. Davidson and carried.

Dr. Davidson moved that the Association pay the bill submitted by Dr. H. Russell Brown for his trip to the Legislative Meeting in Salt Lake City. The motion was seconded by Dr. Stransky and carried.

Mr. Foster read a letter from Mr. Will Robinson, State Historian, concerning the outstanding physicians in the history of South Dakota. Dr. Davidson moved that the publication Post Graduate Medicine be sent a copy of the letter with the suggestions, but that they contact us again in the future before making a final determination of the South Dakota selection. Dr. Reding seconded the motion and it was carried.

Mr. Foster explained the suggested public relations project by the Blue Cross office for a card case size folder with space for medical information which they wish to distribute, with the endorsement of the State Association. Dr. Reding moved that the endorsement of the Association be given this project. Dr. McDonald seconded the motion and it was carried.

The report was approved with the recommendation that the Auditing and Appropriation Committee consider programming in the budget.

The Report of the Committee on Legislation was read as follows:

FOR SUPPORT AS PART OF THE ASSOCIATION'S LEGISLATIVE PROGRAM

1. The committee recommends that residence restrictions for admittance to the TB Sanatorium at Sanator be amended to provide for temporary hospitalization of active communicable TB cases who do not qualify as residents. Provision would be made for hospitalization for a period up to 60 days during which time other sources of care could be explored, residence complications investigated and a suitable facility obtained elsewhere.
2. Indigent Care
 - A. The committee recommends that the Association reaffirm its previous posi-

tion favoring a statewide indigent medical care program for categorical assistance recipients. It is further recommended that the legislature be urged to provide funds to activate the provisions of the enabling act taking advantage of Federal funds for medical care in the four categories.

B. The committee recommends that the offices of the South Dakota State Medical Association and Blue Shield be delegated as fiscal agents for the provision of physicians care for the Welfare Department in any such program for the following reasons:

- 1) Existing agencies providing such services for other governmental agencies would be more economical than a new Welfare Department section.
- 2) SDSMA and Blue Shield can provide physician supervision to use funds effectively and economically.
- 3) In such supervision, the South Dakota State Medical Association should pledge itself to assist in supervision of the expenditure of funds for hospitalization, drugs and medical care to the extent that waste will be eliminated from the program.
- 4) The Association and Blue Shield will provide requested periodical reports to the Welfare Department and will maintain its records for periodic audit by the Department. Such administration should not result in profit or loss to the Association and Blue Shield.
- 5) The Committee further recommends to the Council that negotiated fee schedules for such a program be established at \$3.00 per unit on the South Dakota State Medical Association's Relative Value Scale.

C. The Committee recommends to the Council that the Legislature be urged to enact enabling legislation and provide funds to implement the provisions of Public Law 86-778 Title VI to the extent that South Dakota may take action to utilize Federal funds available thereunder so that the "near needy" aged people of South Dakota will have assistance in meeting the cost of necessary

hospital and medical care.

4. The Committee recommends that when a suitable rabies control program, especially as it refers to skunk control, is introduced, that the Association support such legislation.

OTHER PROPOSALS CONSIDERED

1. Concerning compulsory hospitalization and retention of active tuberculosis patients at Sanator: it should be noted by the Council that this committee understands that present laws do not provide for compulsory isolation of active infectious TB cases in their own place of residence, consequently it would seem to be unreasonable to attempt to enact legislation providing for compulsory confinement at Sanator until and unless the former was also accomplished.
2. Compulsory hospitalization of narcotic addicts — The Committee feels that the further study of Federal laws relating to control of narcotic addicts is needed for its information. While legislation could be supported urging court hearing and compulsory hospitalization of addicts, hospitals in South Dakota are not equipped and manned sufficiently to provide proper treatment. If it can be ascertained that the Federal government would and could cooperate in assuming such care and treatment, then such a law would have merit. If not, no definite accomplishment seems possible. It is recommended that further information be obtained regarding Federal responsibility before the Association takes a position on the matter.
3. Action to remove state tax from margarine produced for pharmaceutical purposes. This proposal is forwarded by the manufacturers of a margarine product distributed through pharmacy outlets for therapeutic use. The company asks elimination of the 10c State tax on butter substitutes, taking the position that theirs is a pharmaceutical product and not merely a butter substitute. The Committee believes that enactment of relief legislation should stand or fall on its own stated merits and therefore recommends that the Council and the Association take no official action in support of this proposed legislation.

Dr. Sattler moved the adoption of this report with the following amendments: 2-A — de-

lete "for categorical assistance recipients" and insert therefore "for OAA and MAA"; in 2-B-5 replace "\$3.00" with "\$3.50" as previously indicated by action of the Council. The motion was seconded by Dr. Tank and carried.

Dr. Perry moved that the request of the Committee on Mental Health to certify nursing homes for care and treatment of mentally ill be referred to the Committee on Legislation. The motion was seconded by Dr. Sattler and carried.

Dr. Stoltz moved that the proposed bill on newspaper advertising be opposed. The motion was seconded by Dr. Tank and carried.

A discussion on establishing a law providing for professional incorporation for gaining certain corporate advantages was held. Dr. Sattler moved that this type of legislation be introduced at this session of the legislature. The motion was seconded by Dr. Stoltz and carried.

Dr. Stoltz moved to support legislation permitting county participation in support of ambulance costs **if introduced**. The motion was seconded by Dr. Buchanan and carried.

Dr. Buchanan moved that the Council support House Bill 509 which relieves physicians, surgeons, or osteopaths from liability for civil damages resulting from their rendering emergency care at the scene of an emergency, and protecting non-resident professionals because of non-licensure. Motion seconded by Dr. Davidson and carried.

Dr. Sattler moved that the Council support the Medical School Affairs Committee's request by contacting the Governor requesting that the budget of the Medical School be taken out of the University budget and made a separate item as previously was done. Motion seconded by Dr. Perry and carried. (The Council did not act on a request of survey for medical school).

Dr. Sattler moved that the Council forward SB 43 to the Committee on Legislation for recommendation. SB 43 concerns an Act relating to alcoholics and alcoholism providing for an interim committee on alcoholism, prescribing its duties, responsibilities, making an appropriation therefore, and declaring an emergency. The motion was seconded by Dr. Johnson and carried.

Dr. Sattler moved that the Council not oppose SB 10 and 11. The motion was seconded by Dr. Davidson and carried.

Dr. Tank moved that the Council support HB 522. The motion was seconded by Dr. Stoltz and carried. HB 522 concerns an Act providing for the Registration and Regulation of Plumbers and the Business of Plumbing by the Department of Health, State of South Dakota.

The Distinguished Service Award was discussed and the recommendations for nominations for this award should be sent to the Association headquarters prior to March 15.

Dr. Sattler moved that the President of the State Association select three names for an advisor to the National Foundation for selection of scholarship recipients. The motion was seconded by Dr. McDonald and carried.

The meeting adjourned at 4:45 P.M.

**MEDICAL SCHOOL AFFAIRS
COMMITTEE
SOUTH DAKOTA STATE MEDICAL
ASSOCIATION
Marvin Hughitt Hotel
Huron, S. D.
January 14, 1961**

The meeting was called to order by Chairman C. B. McVay, M.D., at 9:20 P.M. Present were Drs. McVay, F. R. Williams, W. L. Jones, T. J. Wrage, W. H. Saxton, Walter Hard, PhD., John C. Foster, Executive Secretary, and Phyllis Sundstrom, Assistant Executive Secretary. Guests were Drs. H. Russell Brown, A. A. Lampert, and J. J. Stransky.

Dr. Hard discussed the following items: the annual medical school banquet on March 25; the medical school building program and utilization of AMEF funds; student transfers and agreements with other states; and AMEF contributions. He also discussed his budget recommendations; proposed federal legislation and problems and needs in the future of the medical school.

Dr. Williams moved that the Medical School Affairs Committee recommend to the Council of the South Dakota State Medical Association that a letter be written to the Governor requesting that the Medical School of the University of South Dakota have a separate budget from the University, as has been done in previous years. The motion was seconded by Dr. Jones and carried.

Dr. Wrage moved that the Medical School Affairs Committee recommend to the Council that a study be made of Medical education

and its future in the State, using such funds as may be available for such studies. The motion was seconded by Dr. Williams and carried.

The meeting adjourned at 10:45 P.M.

**BOARD OF DIRECTORS MEETING
SOUTH DAKOTA MEDICAL SCHOOL
ENDOWMENT ASSOCIATION**

Marvin Hughitt Hotel

Huron, S. D.

January 14, 1961

The meeting was called to order at 8:20 P.M. by Dr. W. H. Saxton, president of the Board of Directors. Present were Drs. Saxton, C. B. McVay, H. Russell Brown, F. R. Williams, W. L. Jones, T. J. Wrage, W. L. Hard, PhD., John C. Foster, and Phyllis Sundstrom. Absent were Drs. R. C. Jahraus

ANTON HYDEN, M.D.

1897—1961

Dr. Anton Hyden, 63, a physician in Sioux Falls since 1929, died suddenly in his home on February 2nd.

Dr. Hyden, a specialist in Urology, also practiced medicine in Bowdle from 1925 to 1927.

Many members of his family were engaged in the practice of medicine. His father, Andrew Hyden, and his mother, Dr. Anna Hyden, were both doctors, and his son, Dr. Andrew Clark Hyden, is now an intern at Los Angeles County General Hospital.

Born on May 4, 1897 in Alcester. He was graduated from Central High School in Sioux City in 1915.

He continued his education at the University of South Dakota and obtained both bachelor of arts and bachelor of science degrees. He began his medical education at Rush Medical Hospital in Chicago and received his M.D. degree there. After interning for two and one-half years at St. Luke's Hospital in Chicago, Dr. Hyden engaged in general practice at Bowdle. He undertook post-graduate study of Urology at the New York Post-graduate School of Medicine.

On September 18, 1928, he married Hazel Clark at Lockridge, Iowa. In 1929, the couple moved to Sioux Falls.

Dr. Hyden was a member of Lambda Chi Alpha social fraternity; Phi Rho Sigma medical fraternity, the Masonic Lodge of Alcester and the Sioux Falls Rotary Club. He was a

and Ronald Price. Guests were Drs. A. A. Lampert and J. J. Stransky.

Mr. Foster read the minutes of the previous meeting which were approved, as read. Mr. Foster then read the financial statement of the Endowment Association. Dr. Brown moved that \$5,000 of this money be loaned this year to medical students. The motion was seconded by Dr. Hard and carried.

Dr. Brown moved that Dr. William's offer to talk to Dr. A. J. Jackson concerning a gift to the Medical School Endowment Association be accepted. The motion was seconded by Dr. Jones and carried.

Dr. Williams moved that \$4,000.00 of the money in the Endowment Association be transferred to government bonds or Certificates of Deposits. The motion was seconded by Dr. McVay and carried.

The meeting adjourned at 9:15 P.M.

member of Crestwood Congregational Church.

Professionally, he was a member of the staff of both McKennan and Sioux Valley hospitals and is a past president of the Sioux Valley Medical Association.

Survivors include the widow, the son, a grandson and a sister, Mrs. Charles S. Beal, Winnetka, Ill. A sister and an infant daughter preceded him in death.

G. Q. Olsson, M.D.

1921—1960

Funeral services were held January 24th for Dr. Gordon Q. Olsson, Rapid City pediatrician who passed away after a lengthy illness on the 22nd.

Dr. Olsson was born Feb. 3, 1921 in Gordon, Nebraska where he graduated from high school. He graduated from Nebraska Wesleyan University and received his M.D. degree from the University of Nebraska in 1946.

He interned at King's County Hospital in Brooklyn and received his residency training in Omaha. He practiced briefly in Scottsbluff, Nebraska before moving to Rapid City in 1951.

Dr. Olsson married to Merial Mae Benson in Omaha in 1946 and is survived by the widow, two daughters and a son.

He was a member of the State Medical Association, American Medical Association and the American Academy of Pediatrics and was active in many programs affecting the health of children in the Black Hills area.

P R E S I D E N T ' S P A G E



This month I would like to salute the Woman's Auxiliary to the South Dakota State Medical Association, which is one of the oldest in the nation. Our Association has about 475 members and our Auxiliary 340 members, which means a larger-than-average percentage of our South Dakota wives participate in a program of health education and the job of telling medicine's story to the public.

Nationwide Auxiliary members number more than 80,000. Their work is under the supervision of the American Medical Association, and their prestige in terms of community services rendered is very great indeed.

We doctors fully realize that in this age of enlightenment, when medical science is often the target for sensational headlines and many of our patients come to us with their diagnoses self-made and therapies pre-decided, that the stature of the physician in the eyes of the public is undergoing a change. **THE PUBLIC MUST BE TOLD THE STRAIGHT STORY, OVER AND OVER AGAIN.** We know too that we do not have the time to do this alone; we must depend upon allies in the field to help us.

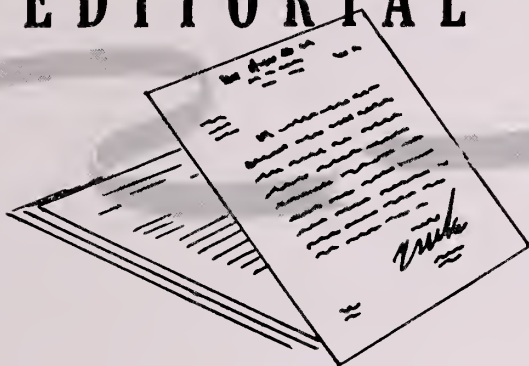
No group outside our own is more interested in the socio-economic problems of medicine than our Auxiliary. Medicine is their bread-and-butter; medicine's future is closely tied to the preservation of our American way of life. Women now play a major role in business, in politics, in every phase of our society. In the 1960 elections 3,000,000 more women than men were registered at the polls.

I believe our Auxiliary members are awake to their national importance and concomitant responsibility, and we need to lean upon them and at the same time keep them abreast of our affairs. Who is better able to be alert to public reactions to medicine's views, and to understand the necessity for discreet interpretations of our position?

We do ourselves a great service when we discuss with our wives the many significant problems of our profession, and encourage their participation in the program of the Woman's Auxiliary.

Sincerely,
C. Rodney Stoltz, M.D.

EDITORIAL PAGE



THEY WISH TO SAY 'THANKS'

Editor's Note: Occasionally the public is exposed to an editorial reflecting on the usefulness of the doctor in the community. Many times we suspect that the editors and the public think these things, but never express themselves. The Rapid City Daily Journal expressed it and I think it is of interest to publish in our Journal in its entirety.

Why didn't you write an editorial when "Doctor" died is a question asked the editor of The Journal. The question has been asked many times in several years.

The answer could and should be that everyone he helped knows he was worthy, they know he was sincere, that he worked night and day to meet the oath he took as a physician and to serve his people.

There are such doctors, many of them, who don't worry about the bill.

A letter came to The Journal from a mother who prefers to remain anonymous and in this case she may. It is a tribute.

Pediatricians seldom get their pictures in the papers. They receive no trophies for their achievements nor do they often receive the applause of crowds. Yet there is probably no public figure who is more deeply and universally appreciated than the physician in whose hands we place the health of our children. Everyone knows the sacrifice with which every medical practice is bought

— eight to ten years of training, long days, uncertain schedule, interrupted sleep, constant study, intricate and nerve-wracking surgery, the weight of life-and-death decisions — all these are part of the price a doctor pays for the privilege of serving the needs of people.

He receives little fan-mail for all this, nor would he expect it . . . but the rewards are present just the same — in the eyes of the mother whose child he saved, in the awkward hand-clasp of the boy who walks out of his office for the last time, leaving his crutches and braces behind. These are the thanks a pediatrician receives, and they are all he wants.

But when a young man gives his whole life to help meet the needs of the children in a community, and when that man is a person of the stature of Dr. Gordon Olsson, the people of that community yearn for some stronger way of saying "thank you." A large number of residents of the Rapid City area share that yearning now.

Probably nobody knows how many parents and children there are who feel a keen personal loss in the passing of Dr. Olsson. The doctor himself was not aware of the deep

(Continued on Page 118)

MEDICAL LIBRARY BOOKSHELF



PHARMACEUTICAL COMPANIES AND PHYSICIANS

A drug information program has been advocated by the AMA brought about mainly by the recent hearings in regard to the drug industry before the Subcommittee on Anti-Trust and Monopoly during the Eighty-Sixth Congress. AMA's proposal was made to the Food and Drug Administration and would be in lieu of an FDA regulation which would require pharmaceutical manufacturers to insert in each drug package a description of the drug and its effects. The AMA's proposed program includes:

1. A new free publication, **Authorized Brochures on Drugs**, distributed to MD's would describe drugs other than those evaluated by AMA's Council on Drugs and would include monographs of the Council on Drugs.
2. Continued publication of **New and Unofficial Drugs**, every three years, in a new improved format containing information about drugs marketed during the previous fifteen years. For purchase.
3. Publication of an annual **Handbook on Drugs** based on information previously presented in the monthly **Authorized Brochures on Drugs**.

4. Accelerated program on Council on Drugs to permit publication of new drug monographs at time of commercial introduction to drugs.
5. A monthly column in **Journal AMA** entitled "New Drugs and Developments in Therapeutics," Continue the current Status of Therapy Series in JAMA. Publish an annual therapeutic number.
6. Accelerate the process of assigning generic names to new drugs.

Two articles dealing with the present grave and pressing problems of the relationships between drug manufacturers and physicians are found in the **Journal of Medical Education** for January 1961. The first of these is by Dr. Charles D. May, Dept. of Pediatrics, College of Physicians and Surgeons of Columbia University, **Selling Drugs by "Educating" Physicians**. Reprints of this are available from the Physicians Council East 63rd St., New York 21, N. Y. This article was endorsed by the Physicians Council, an independent group of 18 eminent physicians who organized in 1956 "to seek means of maintaining high standards for the material on health that is disseminated through the media of mass communications." The article is considered by them to be an accurate, equitable

and constructive analysis of matters of major importance in relations between the medical profession and the pharmaceutical industry.

Reproduced in this article are illustrations of advertisements by drug companies which show a disregard for authoritative opinion and are misleading. One of these is the promotion of Panalba by Upjohn where "one is asked to believe an in vitro sensitivity test is a demonstration of clinical performance in pneumonia (no reference to clinical trials) The nature of this combination is kept obscure by giving the companies brand names to the ingredients." Advertisements in some medical journals cost as much as \$1100.00 a page. One specialty journal receives as much as \$6,600,000 a year. Free distribution of paramedical publications, attractive and eye-catching in format but of doubtful reliability are a means of advertising. (We have found many of the publications of Pharmaceutical Companies reliable and useful for reference purposes in our Medical Library. What better medical artist than F. Netter, M.D.?

The author suggests that a Board of Overseers be made up of representatives of the public, industry and the profession that would be empowered to call to account any party infringing on the stated principles and who would make periodic reports to the public from the profession and drug industry.

The second article which refutes some of the accusations of Dr. May is by John Searle, et al. entitled "**The Pharmaceutical Industry.**" A brief description is given of the Pharmaceutical Manufacturers Association and the Professional Relations Committee. The latter meets occasionally with representatives of the AMA, the American Medical Colleges and the New York Academy of Medicine to attempt to solve problems of mutual interest. The statement is made that the PMA members do not consider their advertising of drugs to be educational but merely informative, intended to arouse doctors curiosity; acquaint him with new products, dosage forms or uses and encourage him to ask questions. In regard to the controversy of trade names the PMA claims that many members use both, the trade name indicating the owners willingness to stand behind the product. The free enterprise system which permits multiplicity of other manufactured

products such as cars should permit many brands of the same drug with the physician having the right to choose the brand in which he has confidence.

Another recent article by L. W. Frolich, *The Physician and the Pharmaceutical Industry in the U. S.* is found in the **Proceedings of the Royal Society of Medicine**, v. 53, August 1960. Among the interesting illustrations is one showing where knowledge of new drugs is gained by physicians: 24.6% from journals; 37.7% from detail man; 19.2% direct mail; 6.4% colleagues; 2.2% samples; 3.8% conventions; 2.2% hospitals; and 3.9% other sources. In answer to the question, Has the Pharmaceutical Industry Established a Mutually Beneficial Relationship With the Physician in 1960? 83% answered yes, 10% no and 7% yes and no.

The amount of money spent by pharmaceutical companies on research is estimated for 1960 as being \$200,000,000; about 9% of sales with the whole future of the company depending at all times on the laboratory.

The Hearings of the Subcommittee on Antitrust and Monopoly with Senator Kefauver as chairman have been printed in 3 parts: Part 18-Physicians and other Professional Authorities; Part 19-Pharmaceutical Manufacturer's Association and Part 20-Oral Antidiabetic Drugs. Found there are many exhibits including advertisements of drug companies; research reports; statements of principles of ethical drug production and others. Part 19-Pharmaceutical Manufacturers Association contains the testimony of Dr. Austin Smith, President of the Association and former editor of the JAMA. Dr. Smith pointed out the misleading information given by previous witnesses and made corrections in the charts that were among the exhibits placed in the sub-committee's records. On the subject of prices of ethical drugs, which seems to have been the main purpose for conducting the hearings Dr. Smith states, "There is ample evidence that even the costliest new drugs which may represent research investments as high as \$20 millions are reduced in price under the impact of competition and increasing production. Many mendicaments researched, developed, manufactured, and distributed at great cost for which there are but few customers are produced as a service to physicians and their

patients. This is because of a dedication to the welfare of mankind.

Dr. Smith emphasized the inadequate amount of appropriations for the F.D.A. to carry out its current responsibilities including the clearance of all new drugs and the nation-wide inspection of all drugs being sold in inter-state commerce. He suggested that some outstanding Senator take a personal interest in the F.D.A. and see that it gets the proper housing in Washington and the type of continuing support that Senator Hill and Congressman Fogarty obtain for the National Institutes of Health.

Esther Howard
Medical Librarian

EDITORIAL PAGE—

(Continued from Page 115)

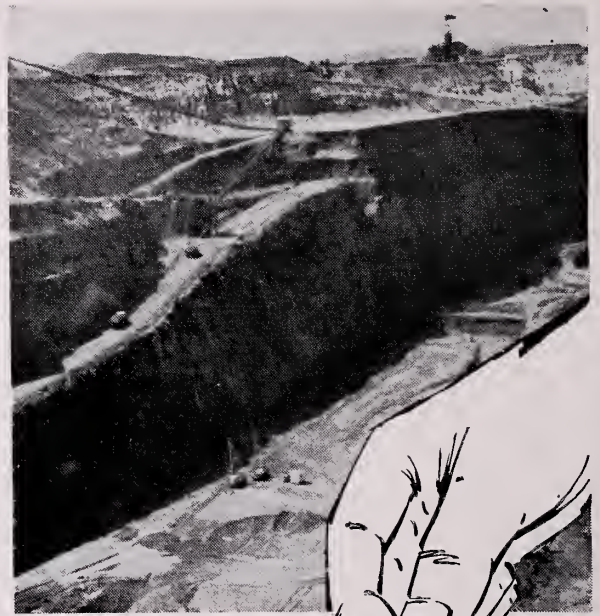
personal attention with which his name has been spoken in many, many homes. Quiet and unassuming, Dr. Olsson never once considered whether or not people knew and appreciated all that he was doing for them.

But from the mothers — white, Indian and Negro — to whose children he came in the middle of the night, and from the parents with whom he has sat for many unbilled hours of careful explanation and reassurance, we can be sure of this: that Dr. Olsson was more than a skilled technician. Combined with his keen mind and highly skilled hands was a gentleness of spirit which meted out not only health but confidence and peace.

Dr. Olsson has won the deep respect and warm affection of the doctors, nurses and pharmacists with whom he worked most closely, and of his many friends in his community and his church. Rapid City is not only a healthier town but a better town because of the quiet influence of a young pediatrician who never knew how much his townspeople wanted to say "thank you."

The tribute is real and it is earnest. There are physicians who do many things for many people, some who will be rewarded in heaven if not here on earth.

Rapid City and the Black Hills, lots of little towns have had physicians who worked for the people all the time and we are fortunate because they were here. The praise for one can be a symbol or a goal for the future.



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EACH CAPSULE CONTAINS:

Ferrous Sulfate, 4.5 gr.	Folic Acid.....0.25 mg.
Iron.....58 mg.	Thiamine Mononitrate.....1 mg.
Cobalt Sulfate 2.0 mg.	Riboflavin.....1 mg.
Cobalt.....0.4 mg.	Pyridoxine Hydrochloride.....0.25 mg.
Liver, Desiccated, N.F.....110 mg.	Calcium Pantothenate.....0.25 mg.
Vitamin B ₁₂1 mcg.	Nicotinamide.....3.3 mg.
	Ascorbic Acid.....16.66 mg.

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This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Let us, therefore, resolve honestly to inform our patient that we **think** or **believe** our treatment will help. Let us not be so dogmatic as to demand full pay when our opinions are wrong. Sometimes it pays to charge only for actual expenses when a suggested treatment fails; and even that charge may not be justified if we have not told the patient we are trying something that may not help — and if it does not.

NEWS NOTES

Dr. Vilas Zvejnieks of Leola will have office hours in Hosmer two afternoons a week.

* * *

The city of Doland plans to build a memorial library to honor the late **Dr. H. W. Sherwood**.

Paul G. Bunker, M.D. of Aberdeen, South Dakota presented a paper entitled "Foreign Body Complications" before the American Laryngological, Rhinological and Otological Society in Minneapolis on January 27, 1961.

* * *

Dr. H. Russell Brown, Watertown, has returned after spending about three weeks in Mexico City where he attended the annual congress of the American College of Surgeons from Jan. 23-26.

* * *

The Bartron Clinic, Watertown was hit by burglars in January. Loot amounted to \$2100 in cash and a small amount of morphine.

* * *

Dr. B. R. Skogmo, Mitchell, has been named to the Board of Directors of the South Dakota Heart Association.

Dr. Theodor Czajkowskyj, Veblen, relocated in Woonsocket on February 1st.

* * *

Dr. Clark Johnson, Yankton, attended an Ob-Gyn post-graduate course in Omaha in January.

* * *

Dr. W. R. Taylor is president of the St. Luke's Hospital Staff, Aberdeen, for the year 1961.

* * *

Drs. Preston Brogdon, Mitchell, and **Roy Knowles**, Sioux Falls, represented South Dakota at the White House Conference on Aging in Washington in January.

* * *

Dr. R. C. Jahraus, Pierre, attended a post-graduate course in Denver in January.

* * *

Parry Nelson, M.D., Watertown, attended a postgraduate course in Omaha in Ob-Gyn in January.

The Black Hills District Medical Society met in Rapid City on February 9. The officers elected for the year by the District are **C. E. Roper, M.D.**, Hot Springs, president; **John Elston, M.D.**, Rapid City, vice-president; and **H. H. Theissen, M.D.**, Rapid City, secretary-treasurer.

SYMPOSIUM FOR ANNUAL MEETING PROGRAM

A Symposium on "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease" will be held during the annual meeting of the South Dakota State Medical Association on Monday, May 15, 1961. The panel will consist of guest speakers, outstanding in their fields, who will discuss diagnosis and treatment of cases presented to them. **If you have patients with unusual and interesting problems or diagnostic and therapeutic problems relative to neoplastic diseases, please send complete information, including case histories, laboratory and x-ray findings, operative procedures and treatment so that they might be readied for possible presentation to the panel.** We hope to make this afternoon session very interesting to everyone and this can be done **if we have material available.** Please send this information to **C. S. Larson, M.D.**, 303 South Minnesota Avenue, Sioux Falls, South Dakota, as soon as possible and prior to May 1st.



(Photo by Rapid City Daily Journal)

Dr. Arthur Lampert, Rapid City, discusses medical aid for the aged with Rep. F. E. Manning, also an M.D., prior to a two hour hearing before the joint Senate-House Health and Welfare Committees. In the background is Rep. C. J. Menning, Corsica, a member of the House Committee.

VA HOSPITAL SEEKS PHYSICIANS

The Veterans Administration Hospital at Fort Meade, South Dakota, has openings for a Board or Board eligible internist; Board or Board eligible psychiatrist; and a general practitioner.

The salary ranges approximate from the ten to thirteen thousand dollar per annum area and other fringe benefits are available, including 30 days annual leave, 15 days sick leave, and partially subsidized life and hospitalization insurance. Interested physicians should write the Director of Professional Services, V.A. Hospital, Fort Meade, South Dakota.

UCLA MED SCHOOL OFFERS PROGRAM IN ISRAEL

The UCLA School of Medicine, in cooperation with the Hebrew University-Hadassah Medical School in Jerusalem and the Beilinson and Tel Hashomer Hospitals in Tel-Aviv, is offering a Clinical Postgraduate Program in Israel next April 20-May 7.

Anyone wishing information on the meeting should write Mrs. Bettie Minifie, Assistant Head, Continuing Education in Medicine and Health Science, University of California, Los Angeles 24, California.

THIRD DISTRICT MEETS AT BROOKINGS

The Third District Medical Society, including members of the Auxiliary and guests, met at the Bates Hotel on Thursday, February 9, at 7:00 P.M.

The speech pathologist of the Crippled Children's Hospital and School in Sioux Falls was the featured speaker on the program and a business session followed the meeting.

SEVENTH DISTRICT HEARS GEBER

Dr. William Geber member of the staff of the South Dakota University School of Medicine spoke to the Seventh District Medical Society February 7th on, "Recent Advances in Cardiovascular and Circulatory Research."

The Business meeting discussed State legislation and recommended that a \$3.50 coefficient be placed on the Relative Value Study for indigent care.

PIERRE DISTRICT ELECTS OFFICERS

The Pierre District Medical Society met at the Medical Association Clinic on February 9. Officers elected for the year 1961 were **B. O. Lindbloom, M.D.**, president; **S. W. Fox, M.D.**, vice-pres. and **J. T. Cowan, M.D.**, secretary-treasurer. Delegates elected are **R. C. Jahraus, M.D.** and **S. W. Fox, M.D.**

OB-GYN MEET SEPT. 3-9

The International Congress of the Society of Obstetrics and Gynecology will meet in Vienna, Austria, September 3 to September 9, 1961. The American Medical Society of Vienna will sponsor a series of charter jet flights for this meeting at considerable savings over the commercial fares.

Any South Dakota physician who is interested may contact the Executive Secretary of the American Medical Society, Vienna I, Universitätsstrasse 11, Austria.

FDA REQUESTS CHLOROMYCETIN RELABEL


Commissioner of Food and Drugs George P. Larrick today announced that a panel of distinguished physicians appointed by the National Research Council at FDA's request has found that the antibiotic, Chloromycetin (chloramphenicol) is a valuable drug that should remain on the market for use in treating serious infections under medical supervision both in hospitals and for treatment of patients in the home. The panel also recommended revision of the labeling of the drug to give added emphasis to the warnings against its use in minor infections and calling attention to the necessity for adequate blood studies when use is required.

These findings are in complete accord with the conclusions reached by the Food and Drug Administration before the matter was referred to the National Research

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Council.

The Commissioner also announced that the manufacturer of Chloromycetin, Parke, Davis and Company, Detroit, Michigan, is co-operating in relabeling the drug compliance with these recommendations.



PHARMACEUTICAL

SECTION

HAROLD S. BAILEY, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota



*attains
sustains
retains*

*extra
antibiotic
activity*

DEC

attains activity
levels promptly

DECLOMYCIN Demethylchlortetracycline attains — usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity
levels evenly

DECLOMYCIN Demethylchlortetracycline sustains through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or at another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.

TETRACYCLINE
ACTIVITY
WITH
DECLOMYCIN
THERAPY

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TETRACYCLINE
ACTIVITY
WITH OTHER
TETRACYCLINE
THERAPY

DOSAGE
250 mg. q.i.d.

DECLOMYCIN—SUSTAINED ACTIVITY LEVELS

OTHER TETRACYCLINES—PEAKS AND VALLEYS

POSITIVE ANTIBACTERIAL ACTION

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retains activity
levels 24-48 hrs.

DECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may thus be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

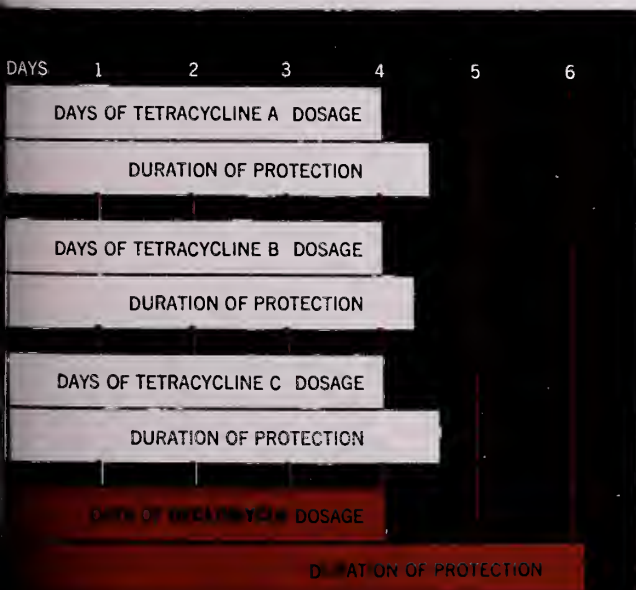


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PROTECTION AGAINST RECURRENCE



PHARMACEUTICAL *Paper*

MEDICAL RESEARCH: DUTY AND PRIVILEGE*

By

John E. McKeen**
Groton, Connecticut

Medical research as we know it today is very new in the history of man. No knowledge is alien to it. Studies of bodily structure and function in health and disease today penetrate ever more deeply into the realm of molecules and atomic particles which reveal something of nature's plan for building the grandeur of the living world. This new orientation of the life sciences has been called "molecular biology." It rests upon, and grows upon, the special knowledge contributed by practically all the disciplines of modern science. Out of better understanding of the marvelous molecular traffic which weaves and ravel the fabric of life flows better understanding of fundamental mechanisms and causes of diseases and new hope for their conquest.

The key that unlocks doors to discovery is research. Is there sound reason to expect that today's research will be of profound

value to the world's well-being tomorrow? You are all aware of some of the fruits of medical research and of the many unsolved problems for which research must furnish fundamental keys. The record of recent years has shown that diseases such as pneumonia, mental illness and polio have retreated as the intensity of research has increased. We can be hopeful therefore that with the help of the Almighty, the knowledge gained in these new laboratories will contribute to the downfall of civilization's remaining afflictions, and open to man the prospect of a longer, more productive and happier life.

Medical research cannot be made visible as an entity confined within buildings and institutions. Its scope and depth are too vast. The outward apparatus of research is naturally most conspicuous in a laboratory such as we are dedicating today. Some of the finest tools available for research will be seen within the walls of our Medical Research Laboratories. Costly instruments of marvelous accuracy which probe into the inner structure of molecules of living systems ex-

*At Ceremonies Dedicating the Pfizer Medical Research Laboratories, Groton, Connecticut, October 6, 1960.

**President and Chairman of the Board, Chas. Pfizer & Co., Inc.

cite imagination and admiration. But mere equipment can never guarantee progress or insure that research efforts will be successful. Wondrous and indispensable though they are, tools are but extensions of men's hands and minds and capabilities.

Much more than materials and buildings are needed. The environment must be one which stimulates and sustains the innate creativity of vigorous, productive minds. In every man there is a God-given spark of nobility which has its highest manifestation in the hope that his work, whatever its material rewards may be, shall be of help to his fellow men. This inner feeling of worth and usefulness is the essence of human dignity and integrity in all walks of life. It is an important motivation of all men and women who play their separate and varied roles in the furtherance of human health. A climate which affords a large degree of freedom for intellectual pursuit of imaginative, intensive, purposeful programs is absolutely essential if research is to yield its highest rewards.

All human accomplishment is achieved within the framework of social and political institutions. In this country we are blessed with democratic institutions which bestow freedoms and impose responsibilities upon all who enjoy those freedoms. A dynamic part of our democracy is the profit system — the wages of effort. With all its faults, the profit system is marvelously competent to encourage the fullest, most socially useful expressions of individual freedom, and to integrate the individual's best efforts into the vast pattern of benefit to the common welfare.

It is at once the duty and the privilege of industry to initiate, implement, and sustain research in every proper sphere. This obligation is even more imperative today than in the past. Individual genius and flashes of insight make great contributions, today as always. But the time when great discoveries were made by a lonely scientist working in a makeshift laboratory is largely in the past. Medical research has grown fabulously in complexity, in costs of instrumentation, in the association and crossfertilization of thousands of trained perceptive minds which contribute to a common body of knowledge. Work which may continue for months and years without practical results must be sus-

tained. Individuals whose drives are toward creativity cannot themselves support such staggering financial burdens. Support must come from institutions, government, universities, medical schools, and, not least, industry. Corporations do not discover anything. But corporations can and do provide enabling facilities for man's creative gifts, furnish incentives, and give a vigorous, stimulating environment for the probing human mind.

Investment in research by the pharmaceutical industry is a magnificent example of our democratic system operating at its best. This investment in faith and hope is made possible by the profit system of our democracy. On the average, representative pharmaceutical manufacturers plowed back 7.8 cents of each sales dollar into research in 1959, a percentage which considerably exceeds the research investment of most other major industries. This is as it should be, for we are dealing with materials of life and death. Time is of the essence. It is important that a drug be discovered while people who need it are still alive.

Democratic forces of competition work to direct the energies of the pharmaceutical industry in the direction they should go for the benefit of suffering people the world over. Research on a drug continues after it has proved its worth and attained wide use. But the exciting focus of competition in the laboratories is upon the hitherto unknown — new discoveries, new drugs, new cures. This is costly, for very few of the hundreds of compounds investigated in research laboratories ever become useful drugs. Profits from the few that do—profits which may suddenly dwindle if a competitor discovers a better drug, an ever-present possibility — help to pay the way of inevitable research failures.

Obsolescence is one of the most important products of these new laboratories. The good drug must be superseded by the better, the better by the best. The ultimate beneficiary of the healthy intellectual competition which creates new drugs is the suffering patient who needs them.

The particular role of the pharmaceutical industry is to discover, develop, and distribute new drugs which are quickly available to every patient through his physician and pharmacist. A new drug is the tangible and visible culmination of research. Unseen and too often

(Continued on Page 131)

PHARMACEUTICAL *Paper*



COUNTERFEITING IN THE PHARMACEUTICAL INDUSTRY*

By

G. Wayne Bye**

Denver, Colorado

My topic for discussion is "Counterfeiting in the Pharmaceutical Industry." Maybe a better name would be "the illegal use of trademarks." In either case, this is an illegal operation perpetrated by a few who have placed profits above their moral responsibilities.

About two years ago we received a call from the Police Department of one of our larger cities concerning some of our products which were being peddled in their city. The Police thought that this material had been stolen in view of the dubious circumstances surrounding its distribution and sale. At that time, we were unable to determine the source of supply of these products; however, during the investigation, I remember one of the older detectives remarking, "the illicit drug traffic in our city today is of such proportions that it is very reminiscent of the Prohibition Era."

About this same time, we began receiving reports from the field that some of our products could be purchased 15 to 30% below our best quantity price. This was very difficult to rationalize or understand since most people are in business today to make money — not to lose money.

However, today it is known that probably a large portion of this questionable merchandise bearing our trademark was being manufactured by firms not authorized to use our trade name or trademarks. In other words, this was counterfeit material. Companies engaged in counterfeiting usually make some legal or legitimate products as a cover for the illegal aspects of their operation. However, most of their efforts are directed toward the manufacture of products affixed with trademarks belonging to other drug firms. Since these firms are already in violation of State and Federal Law they have little interest in quality control, actual content of the products or sanitary manufacturing conditions. I

*Presented to the Nevada State Pharmaceutical Association, Reno, Nevada, September 26, 1960.

**Western Sales Manager, MERCK SHARP & DOHME, Division of Merck & Co., Inc.

imagine most of you have seen the article on adulteration, misbranding and illicit drug traffic in the August issue of the **Journal of the American Pharmaceutical Association**. This one example of a firm charged with conducting the type operation which was just described.

Naturally, the products these firms choose to counterfeit are those with a high dollar volume, a high unit value and, those on which extra discounts would have the greatest appeal. Their method of distribution is rather simple. Primarily, they establish distributors in the various cities. There are distributors pushing counterfeit merchandise to some degree in practically every large city in the country. These distributors make the actual sale to the retail outlets. The products are presented to the druggist usually as repackaged samples or part of a bulk purchase which they have repackaged.

In some instances, original empty bottles are picked up from drug stores and refilled; however, in other instances, the products are supplied in a paper sack or in ordinary glass bottles. It is hard to estimate the dollars involved in this counterfeiting operation but, it has been estimated by several people to be in the millions. It is known that several of the companies whose products are being counterfeited have not made as much progress volume-wise this year as was anticipated. I am sure this illicit operation is in part responsible for this lack of progress. Of course, we as manufacturers, are the ones most affected by this loss in dollar volume, and therefore, more interested in this aspect of the "counterfeit operation" than you as retailers. However, there is a great deal more involved than just this loss to the manufacturer.

Today a great majority of prescriptions are filled with prepared dosage forms supplied by the manufacturer. It is, therefore, of utmost importance that the pharmacist be able to rely upon the integrity of the manufacturer.

During the recent Congressional investigations, it was intimated that all compounds should be made freely available to any manufacturer, disregarding patent rights and, that generic names be used in prescribing all drugs. It was emphasized that the small manufacturer should be given equal oppor-

tunity to take advantage of the research expenditures of the larger companies. Let us examine the long range effects of this philosophy on the future progress of our industry.

Suppose a small company trying to grow and broaden its markets risks a sizable sum on research hoping to find a really new product. In three or four years, if they are lucky, a promising compound is developed. Then follows another three or four years of testing, pilot plant production, market studies, building of manufacturing facilities, etc. Six or eight years after the original research investment, the new product is fully launched. It is an immediate success. Now suppose this invention were not protected by patent and trademark laws. What would happen then? Once the product was a success, this company's competitors — who had none of the six to eight years of development expense — would steal the idea; and, using their superior financial resources, flood the market with imitations at a lower price, driving the creator to the wall. How long would industrial research last under these conditions? How long would our industry continue to progress? How long would your prescription departments show progress? If progress in these areas cease, then we are guilty of robbing the future generations of a healthier and a longer life.

Research and development expenditures by our industry have expanded in recent years because our industry has learned to make a profit out of systemized discovery. We have been able to do this because of strong patent and trademark laws. To purchase drugs solely by generic name, one would have to assume that all manufacturers' have the same standards of quality control, all use the same ingredients and have equal manufacturing procedures and facilities. This, of course, is not true.

Furthermore, the present Food and Drug Administration does not have sufficient trained personnel to adequately police the entire industry to insure that drug standards are being met by all. The Food and Drug Administration practically admits this in their efforts to obtain a larger budget which would enable them to increase their staff of investigators. If generic prescribing become a reality the retailer would be forced to buy from the cheapest source to maintain a com-

petitive position. Along with this he would also have to accept the responsibility to the customer for the quality of the product being dispensed.

The larger companies with Research Departments spend millions of dollars for quality control each year. For example, in our Company the product 'Decadron', from the basic chemical to the finished product is subjected to more than 100 tests. Does it meet label claims? Does the tablet contain only the minute quantity of .75 mg., no more, no less, as stated on the label? Is it of the proper identity and purity? Does it disintegrate within the prescribed period of time? How much pressure will it withstand before crumbling? None of these can be left to guess even though each lot is produced in the same manner time after time. The same procedures are followed by the other reputable manufacturers. These controls are a guarantee both to the Company and to the retail pharmacist that the product meets all specifications. This is your insurance that you are dispensing quality products.

Patients receiving counterfeit tablets could become ill from the contamination existing in their fabricating processes not even considering the quantity or quality of active ingredients contained in the tablets. Furthermore, what assurance does the druggist have that the active ingredients are even the same as those stated on the label. In that manufacturers can prove whether tablets bearing their trademarks are of their own manufacture, product liability will be solely that of the druggist who knowingly or unknowingly buys and sells counterfeit tablets.

Pharmacy has for its primary objective the service which it can render to the public in safeguarding the handling, sale, compounding and dispensing of medicinal substances. This is the obligation of all people in all phases of pharmacy whether they be engaged in research, manufacturing, wholesaling or retailing. This represents our image, because over the years, our profession has lived up to this code.

It has taken many years to accumulate the store of knowledge, the skilled people and the financial resources to make our profession what it is today. The most important

product of our industry is — new knowledge. This has been the key to our progress and success over the years. Our dramatic expansion has come from the new scientific knowledge developed by our own laboratories and by the universities and medical schools. This new knowledge has been translated by industry into an almost endless stream of new and effective drugs that have brought about a revolution in medicine.

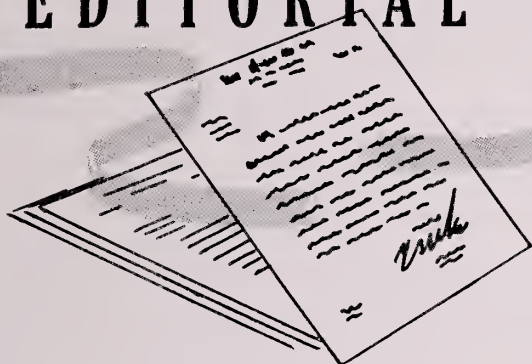
The major part of our growth has come from a handful of major discoveries — drugs that either cured or controlled diseases for which nothing effective had been available in the past. More than half of these medicines were discovered in the laboratories of the American Pharmaceutical Industry and we contributed toward the development of most of the rest. We are proud of our record and recent attempts to belittle it such as we have seen in some recent Congressional investigations.

During the last part of 1959 and, during this year, our industry has been making the headlines, headlines which were far from complimentary. Generated by the Senate Antitrust and Monopoly Subcommittee, I think that these headlines have damaged our public image far more than any other single event in the past. Even though much of the ill-will generated by the headlines was based on misinformation, it still has had its effect on public opinion.

We are now faced with another situation which could do great harm to our professional image. If counterfeiting continues unchecked and becomes general public knowledge, it could undermine public confidence in the integrity of the profession of pharmacy.

For counterfeiters to operate they must have customers. Therefore, I believe the best bargain the retailer can obtain today is to buy products from sources that insure his receiving products of integrity and reliability. In the last issue of the **Journal of the American Pharmaceutical Association**, it urges the employment of only orthodox systems of drug procurement and cautions against "bargain" offerings. We have had no reports or indications of any counterfeit traffic in this state. Congratulations to each and everyone of you!

EDITORIAL PAGE



CHANGES IN FEDERAL NARCOTICS REGULATIONS

There have been two major changes in the federal regulations that apply to Narcotics, and both relate to exempt narcotics. The new regulations, effective January 1, 1961, remove preparations containing dihydrocodeinone from the exempt category, and designate a new class of preparation as Class "M" products. Highlights of the new regulations are as follows:

DIHYDROCODEINONE PRODUCTS FORMERLY "EXEMPT" NOW CLASS "B"

Dihydrocodeinone: Pharmaceutical preparations containing dihydrocodeinone and (otherwise known as Hydrocodone and distributed under such tradenames as Dicodid, Hycodan, Mercodinone) or any salt thereof are no longer exempt narcotics. Preparations containing dihydrocodeinone and any salt thereof now treated as Class "B" (oral) narcotics, so long as the dihydrocodeinone content of the compound does not exceed one and a third grain per ounce or one-sixth grain per dosage units. Dihydrocodeinone preparations with a content in excess of the above will fall in the Class "A" category, which re-

quires a prescription.

Dihydrohydroxycodeinone Status Unchanged

This drug remains unchanged by the new regulation. It is in Class "B" (oral) narcotics so long as the drug, or any of its salts, is not compounded in excess of two-thirds grain per ounce or one-twelfth grain per dosage unit. Preparations containing dihydrohydroxycodeinone in excess of such limits are in the Class "A" category of narcotics.

Dihydrocodeine

Dihydrocodeine (otherwise known as Drocode, and sold under such trade names as Didrate, Rapacodin, Paracodin, Parzone) is an entirely different drug and should not be confused with dihydrocodeinone. Dihydrocodeine preparations containing not more than eight grains per ounce or not more than one grain per dosage unit are to be treated as Class "B" narcotics. But, pharmaceutical preparations containing not more than a half grain of dihydrocodeine, or any of its salts, per fluid ounce are exempt.

Class "X" Products

The new listing of pharmaceutical preparations designed as Class "X" products reads as follows:

(1) Pharmaceutical preparations containing not more than two grains opium per fluid ounce (or 1 av. oz.);

(2) Pharmaceutical preparations containing not more than a quarter grain morphine, or any of its salts, per one fluid ounce (or 1 av. oz.);

(3) Pharmaceutical preparations containing not more than one grain codeine, or any of its salts, per one fluid ounce (or 1 av. oz.);

(4) Pharmaceutical preparations containing not more than a half grain dihydrocodeine, or any of its salts, per one fluid ounce (or 1 av. oz.);

(5) Pharmaceutical preparations containing not more than a fourth grain ethylmorphine, or any of its salts, per one fluid ounce (or 1 av. oz.);

Each of the above mentioned preparations shall in addition contain one or more non-narcotic active medicinal ingredients in sufficient proportion to confer upon the preparation valuable medicinal qualities other than those possessed by the narcotic drug alone.

(6) Pharmaceutical preparations in solid form containing not more than 2.5 milligrams diphenoxylate and not less than 25 micrograms atropine sulfate per dosage unit.

Class "M" Products A Fourth Category

The Federal Bureau of Narcotics has created a new class of pharmaceutical preparations to be designated as Class "M" products. Pharmaceutical preparations will be classified as Class "M" products whenever the Commissioner of Narcotics, after consideration of the report and recommendations of an advisory committee, has determined that such products:

. . . Possess no addiction-forming or addiction-sustaining liability, or possess such slight addiction-forming or addiction-sustaining liability as to create less risk of improper use than those preparations classified as Class "X" products (exempt narcotics), and

. . . Do not permit the recovery of a narcotic drug having such liability with such relative technical simplicity and degree of yield as to create a risk of improper use.

Symbol "M" Required

All preparations classified as Class "M" products will have the symbol "M" superimposed on the label of their containers.

For exemption as a Class "M" product, a pharmaceutical preparation must meet the

following conditions:

(a) To be sold as a medicine only. A pharmaceutical preparation determined by the Commissioner of Narcotics to conform to the standards set forth as a Class "M" product shall be exempt from stamp tax and the requirements pertaining to taxable narcotics only to the extent that it is manufactured, sold, distributed, given away, dispensed or possessed as a medicine and not for the purpose of evading the provisions of the federal narcotic statute.

(b) Records not required. Records of disposition of Class "M" products shall not be required. Manufacturers of Class "M" products shall maintain such records and render such returns as provided in the regulation. Pharmacists need not enter the sale thereof in the Exempt Narcotic Registry Book.

(c) Registration required. Every person possessing or dispensing a pharmaceutical preparation conforming to the standards set forth as a Class "M" product shall register as required in section 4722 of the Internal Revenue Code of 1954, as amended. Pharmacists' Narcotic Tax Stamp Number will be required to order Class "M" products from the wholesale or manufacturer.

So far only four classes of pharmaceutical preparations have been designated as Class "M" products. They are:

(1) Pharmaceutical preparations containing noscapine (Narcotine), or any of its salts.

(2) Pharmaceutical preparations containing papaverine, or any of its salts.

(3) Pharmaceutical preparations containing narceine, or any of its salts.

(4) Pharmaceutical preparations containing cotarnine, or any of its salts.

None of the four classes of pharmaceutical preparations of the above shall be limited by quantity of the narcotic drug, but the medication shall contain active or inactive ingredients of the type used in medicinal preparations.

IMPORTANT LEGISLATION FOR SMALL BUSINESS

Important companion measures for business firms of small and medium size have been introduced in the 87th Congress by Representatives Frank Ikard (Texas) and Thomas B. Curtis (Mo.) and Senator John J. Sparkman (Ala.). Enactment of the proposal contained

in the bills would permit a business (incorporated, partnership, individual ownership) to plow back a percentage of the net profits in a manner that would reduce the tax load now carried by business firms of small and medium size. The proposal is identified in the House as H.R. 2 and in the Senate as S. 2. However, it is advised that the measures be referred to as the "Ikard-Curtis-Sparkman Tax Adjustment Bills."

"The purpose of the legislation is to provide a fair tax relief for business enterprises of small and medium size in order to enable them to obtain growth capital to finance expansion and modernization. How would the legislation function? The answer in brief is:

"Druggist A, during a tax year increases the investment in his drug store through (1) depreciable assets, such as fixtures, (2) inventories and (3) accounts receivable. He would be granted, in the calculation of the federal income levy, the right to deduct an amount equal to 20 percent of the net profits (the maximum to be \$30,000).

"Here is an example of the procedure:

"On January 1, 1961, the depreciable assets amounted to \$15,000, the inventories, to \$30,000, and the accounts receivable, \$10,000, to make the grand total \$55,000. Then on January 1, 1962, the records show that the depreciable assets had dropped to \$12,000, and the inventories had attained \$35,000, and the accounts receivable, \$13,000. The grand total is \$60,000.

"The calculation is as follows: \$60,000 minus \$55,000 leaves \$5,000 (the added investment during the year 1961. Druggist A determines the net profits for the year 1961 to be \$30,000. So he subtracts \$5,000 from \$30,000 and the remainder is \$25,000 (the business income on which the federal income tax would be based).

"The outlook is that legislation to materialize the plan has a good chance to be passed by the 87th Congress. All the members of the Senate Select Committee on Small Business are among the sponsors of the proposal (S.2). Support for the companion measures is also strong in the House. Moreover, the Ikard-Curtis-Sparkman Bills have been endorsed by more than 70 trade associations. Then, too, the current business recession ought to help multiply the interest in the legislation.

MEDICAL RESEARCH—

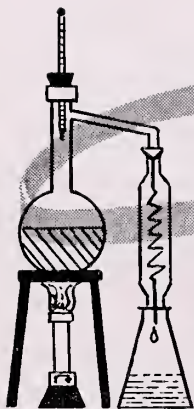
(Continued from Page 125)

unacknowledged is the toilsomely acquired knowledge of the past upon which achievement rests. Uncountable numbers of men and women throughout the world make contributions of thought, experiment and technology which are fragments of the great mosaic of discover. Vital, many-sided medical research goes on in institutions, clinics, university and industry, and is shared in co-operative search for knowledge to defeat disease. The industry gives financial support to fundamental research programs and to education which must nurture the researchers of tomorrow. Competency always is in short supply.

Looking ahead, there is no end of challenges to questing minds engaged in cooperative battle against disease. Great areas of human need throughout the world remain unfulfilled by the best that medical science now has to offer. Since man is mortal, total conquest of disease cannot be expected. But vigorous extension of life, cure of many diseases, and prevention and mitigation of many others seem increasingly within our grasp if research is permitted to continue in the way it is going.

Research would wither on the vine if it lacked financial support. It must be paid for, either by taxes or by private enterprise. It is the duty and privilege of competitive industry, which pays its own way, to provide tools, facilities and atmosphere for the freest expression of man's creative gifts, through which the attainable gifts of future medical research will actually be achieved. The facilities we are dedicating today are Pfizer's latest effort in that direction, and continuation of ideals exemplified since the company was founded more than 110 years ago.

Democratic institutions laid down by the founding fathers to promote the general welfare and give incentives to progress and invention have made our country great and have produced great minds which have contributed immeasurably to mankind. Our true dedication today is to that wonderful quality of men's minds which spurs them unceasingly to do good for their fellow men.



Advances In Drug Research

WHY MAN IS SCURVY-PRONE

The reason man is scurvy-prone, as are monkeys and a few other mammals and one bird — the red-vented bulbul — is that he lacks one enzyme in his liver.

Other animals which have the enzyme, called L-gulonolactone oxydase, either in their kidneys or livers can convert glucose to vitamin C through a series of steps in what biochemists call "the D-glucuronic acid pathway."

Prof. B. C. Guha of Calcutta University reported the foregoing recently before an international assemblage of scientists meeting to report on a decade of study into the mysteries of the oldest vitamins under the sponsorship of the New York Academy of Sciences in the Barbizon-Plaza Hotel.

Dr. J. J. Burns of the National Heart Institute, co-chairman of the conference, pointed out that the researches being conducted by Dr. Guha's group in India has been along lines similar to studies conducted at the University of Tokyo by Dr. N. Shimazono, and at Cambridge University in England by Drs. F. A. Isherwood and L. W. Mapson, and at the National Institutes of Health in Bethesda, Md., by his own group.

The conference has brought all these groups together, with others from the U. S., Canada, and Germany to exchange reports.

Tissue samples removed from patients at time of surgery normally show a vitamin C concentration of 1.7 milligrams of vitamin C for each 100 grams of wound tissue. In disrupted wounds, however, the vitamin C ratio was nine times greater or about 15 milligrams per 100 grams of wound tissue. A patient with no identifiable vitamin C in his blood nonetheless had 1.5 milligrams per 100 grams in his wound tissue, indicating, Dr. Crandon concluded, that the body had depleted other stores of vitamin C to bring it into the wound.

Other reports, notably by two women specialists in nutrition, Dr. Helen B. Burch of Washington University, St. Louis, and Dr. Grace A. Goldsmith of Tulane University, New Orleans, were to the effect that vitamin C requirements for normal healthy persons were more than 20 milligrams a day for children and more than 40 for adults, with amounts between 60 and 100 milligrams daily producing near-saturation of all tissues.

In the surgical patient, to the contrary, Dr. Crandon reported cases in which blood levels of vitamin C fell after surgery even when the

patient was receiving 100 milligrams a day. One exceptional case of severe, ultimately fatal ulcerative colitis did not show a rise in vitamin C blood levels until the daily dose was increased to 300 milligrams.

In terms of orange juice, it was explained, 300 milligrams are obtainable from no less than 30 ounces of juice.

Dr. Crandon also showed evidence that infection of post-surgical patients was accompanied by a sharp drop in vitamin C blood levels. He noted also that administration of cortisone seemed to produce the same type of drop.

Vitamin C Important In Wound Healing

Abdominal surgery of a major nature may raise the daily requirement for vitamin C by five to seven times, a Tufts University surgical researcher told the New York Academy of Sciences recently.

The researcher, Dr. John H. Cradon, reported on 150 cases whom he has studied at Boston City Hospital. Each patient's vitamin C blood levels were measured before and after surgery and daily during convalescence.

Of 63 patients whose wounds failed to heal normally, he reported, 36, or 57 per cent, had shown vitamin C deficiency. But it could not be said certainly, he explained, that the deficiency caused the failure to heal or was instead the result of wound inflammation.

Dr. Cranston presented other evidence to indicate that inflammation, infection, or the administration of cortisone or cortisone-like medication also will be followed by a sharp and swift drop in vitamin C blood levels.

Another of the reports delivered to the international conference on vitamin C, by Dr. A. H. Conney of Dr. Burns' group, reported on the anomalous action of various drugs — themselves completely unrelated chemically — in producing greater synthesis of vitamin C in rats.

They do not, of course, have this effect in man but they may cause human liver enzymes to break down drugs more swiftly, since in the rate they do stimulate these enzymes.

Such studies as this may well lead to improved treatments of disease, and particularly those diseases which are the result of or involve faulty metabolism, Dr. Burns suggested.

Although the effectiveness of vitamin C

in prevention of scurvy was recognized by sailors a century ago — leading to the nickname lime juicers or limeys for British tars — intensive research such as that now under way in all parts of the world had to await the development of scientific techniques and understanding of enzyme systems.

Vitamin C, as a chemical entity, L-ascorbic acid, was not identified until 1931. It was synthesized in 1933.

Bantu's Blood Shows Low Cholesterol, Normal Clotting Time

Continued study by a group of researchers at the University of Capetown, South Africa, confirms earlier research showing strikingly low blood cholesterol levels in Bantu natives.

These Africans are remarkably free from heart disease, and their blood shows no increased inclination to clot as compared with blood of white control subjects of European ancestry.

It appears, however, that the time it takes a Bantu's blood to dissolve a clot is less than that for his European counterpart's blood.

The Capetown report appears in a recent issue of "British Medical Journal."* Like thousands of others all over the world, the South African researchers are seeking clues to the cause of atherosclerosis, the silting up of arteries with fibrous-fatty scales, which leads to formation of clots in, and blocking of, arteries.

The analysis of the blood characteristics of Bantus and whites in Africa, it is hoped, will shed more light on the basic controversy over atherosclerosis which was set off by two scientists in the mid-nineteenth century. Virchow¹ attributed a major role in the process to fats in the circulating blood. Rokitsky² believed that the plaques were caused by the deposit of fibrin on the artery wall. Virchow's theory anticipated the current medical concern over blood cholesterol levels and animal fat in the diet of Western white men.

The subjects of the Capetown tests, conducted by Dr. C. Merskey and seven colleagues, were 80 male white-collar workers, most of them from a large insurance company, with a scattering of professional men and skilled workers; 53 migrant Bantu workers who had just arrived in the city from

* 5168:219, (Feb. 23, 1960)

the Transkei Native Reserves; and 48 men who had suffered coronary occlusions not less than three months before, or who were stabilized angina patients with reduced circulation in their coronary arteries. Seven tests for blood chemistry were performed on each blood sample and nine tests were made for clotting and clot dissolving times and factors involved in clot formation.

The Bantus, who consume a diet in which fats provide only about 20 per cent of calories (as contrasted with 45 per cent for the whites) showed a mean blood cholesterol level of about 160 mg. per hundred cc. of serum (mg. per cent). The coronary and angina patients, on the other hand, had a mean blood cholesterol of 285 mg. per cent, while the control Europeans showed a mean of 265 mg. per cent.

There was no overlap between the cholesterol levels of the Bantus and those subjects who had suffered heart disease, the highest level of any Bantu being 210 mg. per cent and the lowest angina-coronary level being 215 mg. per cent.

The blood-fat part of the study thus confirmed earlier studies which have pointed to blood cholesterol as a valid indicator of abnormal blood fat transport with some capacity to predict coronary attacks. In the Bantu population, deaths from heart disease are "extremely rare," says Dr. Merskey and his co-workers.

One test of blood coagulation reported by these researchers in the one for clotting of the blood both in plain glass and silicone glass tubes. All three groups showed a comparable range in clotting time, showing that the Bantu's advantage in avoiding artery-blocking blood clots probably isn't due to slower clotting of his blood.

Another test reported by the Capetown researchers is that for fibrinolysis (breaking down of the fibrin which is found both in blood clots and in arterial plaques or scales). There was no significant difference between the mean times for clot dissolution of the coronary-angina groups and the control Europeans (about 12 hours). But when age-matched members of the control group were compared with the Bantus, the latter's blood dissolved clots more rapidly (mean fibrinolysis time, about five and one-half hours for Bantus, 11 hours for whites).

In discussing their findings, the researchers conclude that "no clear evidence has been found to show that the comparative immunity of the Bantu to severe coronary atherosclerosis and to clinical coronary heart disease is due to a lesser coagulability of his blood." On the other hand, they remark that only one Bantu blood sample took longer than 16 hours to dissolve a clot, while among the white males of the coronary and the control series, one-sixth of the samples took longer than sixteen hours and one-eighth took more than 20 hours.

Dr. Merskey and his associates comment, "It is tempting to suggest that during phases of prolonged lysis time — that is when fibrinolysis is inhibited — unrestricted deposition of fibrin occurs and atherosclerosis is promoted. Thus in the white race, who appear to be prone to phases of prolonged lysis, severe atherosclerosis is more common than in the Bantu.

However, the scientists ruefully note, the shorter lysing time of the Bantu as well as certain blood chemistry differences may only show some sort of liver trouble to which this people is prone. They also comment that the anxiety of the country-bred Bantu on his arrival in the big city and the fears experienced in having a needle inserted in his vein may also account for his faster clot dissolving.

Cholesterol Lowering Drug

A new synthetic thyroid hormone lowers cholesterol levels in the blood of hypercholesterolemic patients without apparent toxic effects on heart action either in patients or in normal controls.

This report, in the October issue of **Clinical Medicine**, is based on a study of 67 heart patients and 22 normal young men and women. The author is Dr. Paul Starr, emeritus professor of medicine, University of Southern California. Dr. Starr is an eminent authority on thyroid activity.

The new drug, known as Choloxin (sodium dextro-thyroxine), is not yet ready for general medical use, but extensive clinical research is being continued by leading medical scientists.

Choloxin was developed by the same re-

search team at Baxter Laboratories, which produced the natural thyroid hormone (chemically known as the L isomer) by synthesis almost a decade ago. The new thyroid hormone differs in structure from the natural form as the right hand does from the left. It differs in effect, in that, in recommended doses, it does not speed up metabolism, or affect the heart as does the L form.

Dr. Starr's sixty-seven patients were diagnosed as suffering from too-high blood-cholesterol levels — anything over 260 milligrams per cent (milligrams per 100 milliliters) is considered too high. Twenty-two normal persons were used as a control group. Choloxin was given orally daily for as long as two years in some cases.

The thirteen patients with the highest blood-cholesterol levels, all over 400 milligrams per cent, experienced the most dramatic reduction on Choloxin therapy. In these patients the average level after treatment was 318, constituting an average reduction of 172 milligrams per cent or a 35-per-cent drop from the former level.

An average cholesterol level of 252 milligrams in a group of twenty patients was reduced to 200 milligrams per cent after therapy.

Thirty-four patients, with pretreatment levels of 341 milligrams, had an average decrease of 82 to 259 milligrams.

In the control group, where initial cholesterol levels were normal, Dr. Starr said, "there was no statistical reduction but an occasional individual did show a striking effect."

Dr. Starr reported of his patients that

there was "no instance of escape or failure to control the serum cholesterol level . . . after several months' treatment in this series." He added that the reduction was accomplished without any harmful side effects to the heart or thyroid gland.

Other investigators have shown that treatment with natural thyroid hormone lowers blood-cholesterol levels. However, this reduction is often accompanied by serious side effects, especially in heart patients.

Offering an example of the apparent lack of side effects, Dr. Starr cited the case of a woman who suffered from angina pectoris on as little as 0.075 milligram of natural thyroid hormone daily. Substitution of Choloxin in daily oral doses of 4.0 milligrams during a seven month period of observation reduced the cholesterol level from 350 milligrams to 205 milligrams with no angina pectoris.

At this point, Choloxin was discontinued and once more the patient was put on natural thyroid hormone in a daily dose of 0.1 milligram. Within one week the patient's cholesterol level rose to 345 milligrams and anginal attacks returned. Natural thyroid was discontinued and Choloxin was once again given in a daily dose of 4.0 milligrams. The cholesterol level returned to normal and the angina stopped.

In summary, Dr. Starr wrote, "sodium dextro-thyroxine has been shown to be an effective non-toxic agent for the reduction of serum cholesterol, presumably with anti-arteriosclerotic protection, and new evidence suggests that in addition it maintains normal oxygen metabolism with less cardiac stimulation than levo-thyroxine.



Rx PHARMACY *News*

NEW WELFARE Rx PLAN

Merck Sharp & Dohme, Division of Merck & Co., Inc. put forward a plan recently to help states meet the costs of prescriptions filled in retail drug stores for welfare patients.

Stuart T. Henshall, vice president and general manager of Merck Sharp & Dohme, announced that the company proposes to reimburse individual states a sum equal to 10 per cent of the welfare prescription money they spend in private pharmacies for MS&D products.

"It long has been our policy to grant discounts to cities, counties, and states for pharmaceutical products bought directly by them from the company," Mr. Henshall said. "We have also been interested in finding a way to help states reduce the cost of retailer-filled prescriptions

for welfare patients.

"We feel the Merck Sharp & Dohme Welfare Prescription Program provides such a way. In doing so, it encourages the use of retail pharmacies for welfare prescriptions and thus strengthens normal channels of drug distribution.

STUDENTS SPONSOR HEART FUND DRIVE

Approximately 100 students of the Division of Pharmacy, South Dakota State College, conducted the annual Heart Fund Drive, Sunday, February 26, in the city of Brookings. This is the fifth year that the Heart Fund Drive in Brookings has been conducted entirely by students of the Division of Pharmacy.

Leadership for the project was provided by members of the Kappa Psi and Kappa

Epsilon fraternities at the college. Members acted as area captains, assembled all of the campaign literature and workers' kits and distributed display material.

INDUSTRIAL TRIP FOR JUNIORS-SENIORS

About 100 junior and senior pharmacy students toured the manufacturing plants of Eli Lilly, Indianapolis, Indiana on their biennial educational trip March 18-23.

The trip is made every two years as an opportunity for the future pharmacists to study the makeup and operations of a pharmaceutical manufacturing concern. While guests of Eli Lilly, they inspected the research laboratories, and toured the pharmaceutical, biological and antibiotic production facilities.



Scientific

P A P E R

FLAIL CHEST INJURIES: Report of a Case

E. G. Huppler, M.D.*
Watertown, S. Dak.

* Department of Surgery
Bartron Clinic, Watertown, South Dakota.

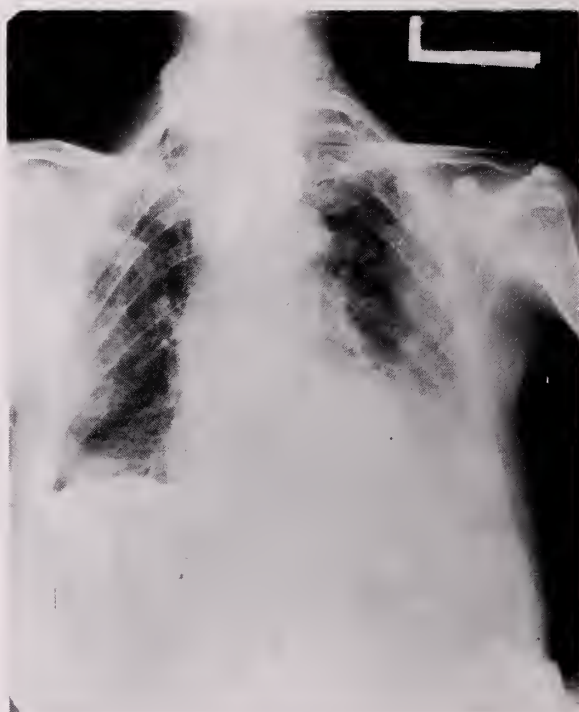
The seriously injured patient with chest injuries will frequently receive an emergency evaluation in the Outpatient Department. After appropriate screening X-rays have been taken, the patient should be transported to the Department of Surgery. The Department of Surgery must have adequate equipment so the physician can aspirate the oral and nasopharynx of blood and secretions which may block the ever vital airway. It is equally important to have a cardioscope, cardiac arrest tray and tracheotomy trays available.

A good anesthesia department is invaluable in the care of severely injured patients with respiratory problems because the anesthetist possesses many complicated skills and is trained in the use of the technical equipment to care for these patients.

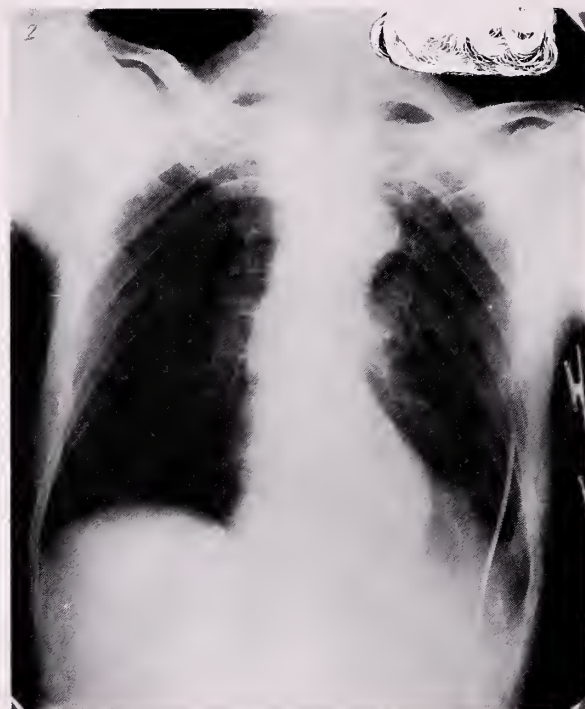
CASE HISTORY: A 74 year old white male was injured in an automobile accident. He was brought by ambulance to the emergency room and was then taken to the X-ray Department by the admitting physician. X-rays of the chest showed fractures of the right second, third, fourth, fifth and sixth ribs anteriorly and the ninth rib posteriorly; of the left sixth, seventh, eighth, ninth ribs an-



X-ray 1



X-ray 3



X-ray 2



X-ray 4

teriorly and the left tenth and eleventh ribs posteriorly. There was no pneumothorax apparent on the admission film. The patient also had fractures of the right humerus, the right patella and the left patella and multiple lacerations and contusions of both hands, arms, face and knees.

When first seen the patient was in extremis. Though he had no blood pressure, he was alert but very apprehensive and moderately cyanotic. He was barely breathing because of paradoxical respiration of his right and left anterior chest wall. After applying appropriate splints to his arm, the patient was transferred from the X-ray Department to the Operating Room. Under local anesthesia his pharynx, hypopharynx and larynx were anesthetized and an endotracheal tube was placed in the trachea. Positive pressure was administered manually from an anesthesia machine. A cardiac monitor was then attached and a continuous electrocardiogram was interpreted by a consulting internist. During the period of cardiac monitoring there were many bizarre changes in his cardiac rate and rhythm.

Intravenous fluids were started. Levophed was necessary to maintain his systolic blood pressure. A Foley catheter was inserted in the bladder and 300 ccs. of clear urine was obtained. During the first ninety minutes after being catheterized the patient produced 90 ccs. of clear urine; however, he remained in serious condition. He began to develop marked dilation of the left jugular veins and cyanosis localized to the head and neck. A repeat chest X-ray was taken and a pneumothorax was now demonstrated. This pneumothorax caused about 25% compression of the left lung. Under local anesthesia a closed thoracotomy was performed, inserting a Clagget S-needle. Twenty minutes later a serial chest X-ray showed almost complete re-expansion of the left lung. The patient's condition improved considerably after the pneumothorax was under control.

A tracheotomy was then performed under local anesthesia and an especially adapted short endotracheal tube was placed through the tracheal stoma. Intermittent positive-negative pressure was then applied directly through the short endotracheal tube using the Jefferson ventilator. The patient's condition became stable and he was brought to a hos-

pital room six hours after admission.

Blood chemistries were drawn within a few hours and all blood chemistries, including the carbon dioxide combining power, were within normal limits. Serial carbon dioxide combining powers were followed to guard against carbon dioxide retention or washout. The patient was maintained on 100% O₂ for 48 hours, then on room air, with intermittent positive-negative pressure for a period of approximately two weeks. There were several episodes of mechanical failure of the ventilator that necessitated manual use of an inflating bag during the interim of repair of the machine.

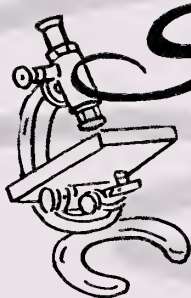
Approximately 96 hours after admission the patient developed a problem, relatively common to serious chest injuries, "wet lung." The wet lung was caused by mechanical obstruction of the airway by the cuffed tube in the trachea and the inability of the patient to cough out his secretions. Though the patient had been on frequent aseptic aspirations of his trachea and lungs it was felt that there was some ultimate damming up of secretions within the lung. A calculated amount of serum albumin was given to draw off one liter of interstitial fluid into the vascular compartment. 100 ccs. of concentrated serum albumin was given intravenously over a ten minute period. The same amount of serum albumin was given again in two hours. The patient had a diuresis of 2600 cubic centimeters of urine and a decrease of the rhonchi and secretions within his lungs. Intravenous serum albumin was used again on the 7th day after admission with similar results.

Approximately 14 days after the accident the chest cage had stabilized sufficiently so that the patient could now breathe without the paradoxical motion that characterized his flail chest on admission. Treatment was then directed to the multiple fractures of his extremities.

DISCUSSION: Positive pressure applied during pressure breathing inflates the lung to a greater extent than normal and thereby provides better ventilation and more extensive inspiratory bronchodilation. At positive pressures of more than 55 to 65 cm. H₂O air leakage may occur from ruptured alveoli and at pressures of 80 to 135 cm. H₂O the lung ruptures.

Positive pressure breathing may cause un-

(Continued on Page 146)



Scientific

P A P E R

THE RIGGS' FIVE YARD GAUZE (A Report on 14,586 Cases)

T. F. Riggs, M.D., Pierre, South Dakota
C. L. Swanson, M.D., Pierre, South Dakota

For many years, the doctor has feared the loss of a sponge during major surgery. In view of the ever increasing malpractice suits, it was felt that this report might be timely.

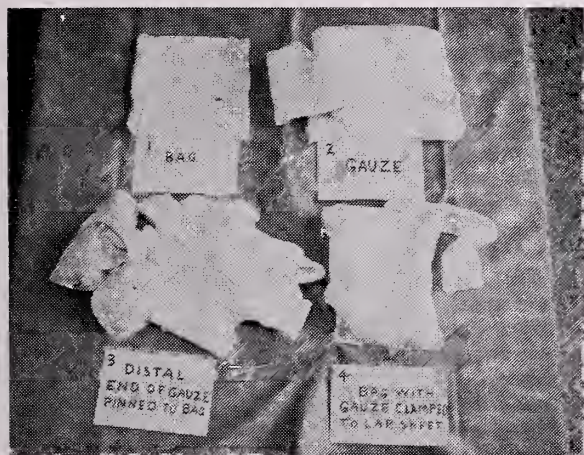
In Dr. Max Thorek's new book, on **Surgical Errors and Safeguards**, he states "although understandably, there are relatively few such instances reported in the literature, it is fairly well established, that a considerable number of cases of things "left behind" during surgery, do occur each year. It is also obvious, that such accidents may not only cause immediate failure, but also can necessitate re-operation later and or lead to a whole string of corollary troubles, including law suits and chronic invalidism or even death to the patient. Occasionally, it appears that foreign bodies left in the abdomen after laparotomy are unavoidable. Far more often, they are the result of sheer carelessness. Gauze sponges or pads head the lists of such objects. Next in frequency, are artery forceps."

Dr. T. F. Riggs developed a sponge technique in the winter of 1921. Unfortunately, our records only date to 1926. In the winter of 1921, a patient was seen in the office of Dr. Riggs because of draining from a wound. He previously had an operation for

varicose veins on one leg. This was done approximately ten days prior to his visit to the office. It was not difficult, at this time, to determine a piece of gauze protruding from one of the incisions. The gauze was removed and proved to be a four inch square.

The next day, Dr. Riggs had consultation with the Sister in charge at St. Mary's Hospital. The procedure agreed upon at that time is exactly as it is being done today.

The "Five Yard Gauze" is folded in a cloth packet after one end is fastened to the bottom with a safety pin. This cloth packet, containing the "Five Yard Gauze" is then clamped to the laparotomy sheet in lateral positions. As many packets of gauze as necessary may be used. The number often depends upon the assistants or their position. These packets of gauze are prepared before surgery. The gauze is 20 x 12 mesh with 4½ fold and 8 ply, purchased in 100 yd. lengths, from Johnson and Johnson. It is folded longitudinally and cut in five (5) yd. lengths.



Riggs Five Yard Gauze

The advantage of this technique over loose pieces of gauze is quite obvious, (it saves counting sponges.) At St. Mary's Hospital, fourteen thousand, five hundred and eighty six (14,586) major surgical procedures have utilized this technique with no known sponge loss. This figure included surgery from 1926 through 1958. There have been many more cases since, which are not recorded with this list.

Needless to say, careful instrument and sponge counts are essential. Certainly, it is easier to lose a sponge in a "bloody field" than any other piece of surgical equipment. It is our feeling that the Riggs "Five Yard Gauze" eliminates all danger or almost all danger of losing sponges. There is little, if any, disadvantage of sponging with the long gauze. With some practice, the technique of this long gauze sponging can be easily mastered. One advantage often overlooked, is the opportunity to leave the gauze over bleeding areas with some pressure, or to use it as a pack, without fear of loss.

It is interesting to note that this technique was developed by a pioneer of surgery who had little and sometimes no help. Despite some years of other forms of improvement in operating procedure, Dr. Riggs' "Five Yard Gauze" remains a vital part of St. Mary's Hospital routine.

SUMMARY

A simple technique utilizing Dr. Riggs' "Five Yard Gauze" for surgical sponging is described. Its success can be based on more than fourteen thousand, five hundred major surgical procedures done at St. Mary's Hospital, Pierre, South Dakota, without any known loss of a sponge.

REFERENCES

Surgical Errors and Safeguards, Fifth Edition by Dr. Max Thorek.

South Dakota State Medical Association

1961

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Stag Party • Jay Marshall • District VII Skit
Curly Miller Orchestra
- ☆ Council Meeting
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Monday, 9:30 p.m., May 15
- ☆ House of Delegates
Saturday, 7:30 p.m., May 13
Sunday, 2:00 p.m., May 14
- ☆ Registration Daily
8:00 a.m. to 5:00 p.m. . . . \$5.00 Registration Fee



MALPRACTICE VS. MEDICAL PRACTICE*

As a precaution against malpractice suits, doctors are significantly changing the way they practice medicine. Just how they are doing this, and some of the reasons for it, are spelled out in a study just completed by the Boston University Law Medicine Research Institute.

Candid comments on malpractice by 214 Massachusetts physicians indicate that doctors now routinely alter or modify even accepted common procedures to protect themselves against potential litigation.

A key question asked the 214 MDs was: Do you think the threat of malpractice suits is greater now than it was five years ago?

"A considerable number of physicians seem convinced that patients are suing their doctors at a greater rate than ever before," says clinical psychologist Robert L. Geiser, who conducted the study.

"This in spite of the fact that here in Massachusetts the number of malpractice cases brought to court is apparently on the decline."

Massachusetts, Geiser says, ranks 15th among the states in incidence of malpractice suits, and it rarely reports the kind of single judgments handed down in such states as California, which contributes a large share to the annual total of nearly \$5 million in malpractice costs. Nevertheless, Massachusetts doctors apparently are as worried as anyone.

"Like Everest, the threat is there," Geiser comments, "and doctors tell us they only ignore it at their peril."

In the Law-Medicine Institute study, for instance, both general practitioners and specialists agree they're now reluctant to accept certain types of patients for treatment.

Any patient known to have previously sued a physician leads the "undesirable list" of both groups of practitioners. Next come the "shoppers" who switch around from one doctor to another. Close behind are alcoholics and bad credit risks. Some respondents say that if a patient is suit-prone — if he's known to have sued his landlord or a neighborhood merchant—he'd better be directed elsewhere.

Self-imposed Limits

Some GPs voluntarily limit their scope of practice as a hedge against malpractice troubles. Many of them no longer attempt

* Reprinted with permission from World Medical News.

minor surgery or assist in surgery in any way. And many others won't handle their own x-ray work or fracture cases any more, according to the survey.

Chemotherapeutic procedures also are affected, although to a lesser degree. A few Massachusetts physicians say they now prefer to stick to the older, more widely-accepted drugs, even if some of these drugs are demonstrably less effective than some of the newer products.

Massachusetts physicians are also sharply stepping up their use of x-rays and laboratory analyses. Their reason is invariably the same: to have a tangible record at hand in case some patient should decide to sue. Even though the effect of routinely using these procedures means higher cost to the patient, the majority of respondents let their own practical considerations win out over sympathy for the patient's economic problems.

Greater Care, Less Risk

Another trend among Bay State GPs is an increased use of consultations with specialists. One physician said he calls in one or more consultants in any case where the end result might be poor — even though he is well aware that poor outcome of treatment is not sufficient basis for malpractice action.

There is a growing insistence that more and more things, even trivial ones, be put in writing. Many doctors say that keeping detailed histories and treatment records is particularly important in the case of an "uncooperative" patient. Other examples of routine paper work followed by many physicians: consent forms for treating minors, appointment cards for everybody, autopsy permits, written prescriptions instead of phone calls to the druggist.

The BU study shows that Massachusetts physicians share at least one malpractice-born characteristic with their colleagues in most other parts of the country. They have a marked distaste for appearing on the witness stand. Whether they think such appearances are "unpleasant," "embarrassing" or "too time-consuming," most confess they think twice before volunteering an opinion in court — and 25 per cent said they flatly refuse to appear unless subpoenaed.

When asked whether the frequency of malpractice suits in a particular geographical area influences a physician's decision to

move to this area, 71 per cent of Bay State physicians said it would.

Some Legal Suggestions

Many doctors, however, believed a solution might be found in abolishing lay juries in malpractice cases. As a substitute, they usually suggested that some form of medico-legal group handle the problem: an all-physician jury, a mixed jury of physicians and attorneys, special judicial boards trained in both medicine and law and "medically qualified" fact-finding committees. Some doctors even suggested court-appointed boards such as those used in settling industrial compensation cases.

But not all the replies reflect complete pessimism. Many Massachusetts doctors say they're convinced that well-informed, satisfied patients seldom sue. Because of this, a substantial number report that they're doing their best to explain fully a patient's illness and its method of treatment. One doctor summed it up: "Because of the malpractice threat, I take care in what I do, what I say, how I say it."

New Legislation Affects Physicians

Editors Note: Two bills of particular interest to physicians were passed by the recently completed session of the legislature, which have a very direct effect on physicians. House Bill 689 which was sponsored by the South Dakota State Medical Association provides for the creation of medical corporations. Because of the interest shown in this bill and House Bill 509, the two laws are printed in their entirety on the following pages.

"Medical Corporation Act"

Three or more persons licensed pursuant to Chapter 27.03 of the 1960 Supplement to the South Dakota Code of 1939, as amended, hereinafter referred to as The Medical Practice Act may associate to form a corporation pursuant to the provisions of law pertaining to private corporations to own, operate and maintain an establishment for the study, diagnosis and treatment of human ailments and injuries, whether physical or mental, and to promote medical, surgical and scientific research and knowledge, and for any other purpose incident or necessary thereto; provided medical or surgical treatment, consultation or advice may be given by employees of the corporation only if they are licensed pursuant to the Medical Practice Act.

Section 3. Business Corporation Act. The provisions of the law governing private corporations shall be applicable to such corporations, including their organization, and they shall enjoy the powers and privileges and be subject to the duties, restrictions and liabilities of other corporations, except so far as the same may be limited or enlarged by this act. If any provision of this act conflicts with the Medical Practice Act this act shall take precedence.

Section 4. Corporate Name. The corporate name shall contain the names of one or more of the shareholders, provided that the name of no person who is not employed by the corporation shall be included in the corporate name, except that the name of a deceased shareholder may continue to be included in the corporate name for one year following the decease of such shareholder. The corporate name shall end with the word "Chartered", or, the word "Limited", or the abbreviation "Ltd.", or the words "Professional Association", or the abbreviation "P.A."

Section 5. Certificate of Registration. No corporation shall open, operate or maintain an establishment for any of the purposes set forth in Section 2 of this act without a certificate of registration from the Board of Medical and Osteopathic Examiners, hereinafter referred to as the Board. Application for such registration shall be made to said Board in writing and shall contain the name and address of the corporation and such other information as may be required by the Board. Upon receipt of such application, the Board shall make an investigation of the corporation. If the Board finds that the incorporators, officers, directors and shareholders are each licensed pursuant to the Medical Practice Act and if no disciplinary action is pending before the Board against any of them, and if it appears that the corporation will be conducted in compliance with law and the regulations of the Board, the Board shall issue, upon payment of a registration fee of Fifty dollars, a certificate of registration which shall remain effective until January first following the date of such registration.

Section 6. Annual Renewal. Upon written application of the holder, accompanied by a fee of Ten dollars, the said Board shall annually renew the certificate of registration if the Board finds that the corporation has

complied with its regulation and the provisions of this act.

Section 7. Posting. The certificate of registration shall be conspicuously posted upon the premises to which it is applicable.

Section 8. Change of Location. In the event of a change of location of the registered establishment, the said Board, in accordance with its regulations, shall amend the certificate of registration so that it shall apply to the new location.

Section 9. Assignment. No certificate of registration shall be assignable.

Section 10. Suspension or Revocation. The said Board may suspend or revoke any certificate of registration for any of the following reasons: (a) the revocation or suspension of the license to practice medicine of any officer, director, shareholder or employee not promptly removed or discharged by the corporation; (b) unethical professional conduct on the part of any officer, director, shareholder or employee not promptly removed or discharged by the corporation; (c) the death of the last remaining shareholder, (d) or upon finding that the holder of a certificate has failed to comply with the provisions of this act or the regulations prescribed by the Board.

Section 11. Notice of Suspension or Revocation. Before any certificate of registration is suspended or revoked, the holder shall be given written notice of the proposed action and the reasons therefor, and shall be given a public hearing by the said Board with the right to produce testimony concerning the charges made. The notice shall also state the place and date of the hearing which shall be at least five days after service of said notice.

Section 12. Any corporation whose application for a certificate of registration has been denied or whose registration has been suspended or revoked may, within thirty days after notice of such action by the Board appeal to the circuit court of the county where such corporation has its principal place of business. The court shall inquire into the cause of the Board's action and may affirm, or reverse such decision and order a further hearing by the Board, or may order the Board to grant appellant a certificate of registration.

Section 13. Notice of Appeal. Notice of appeal shall be served upon any member of the Board by leaving with such member, or

at his usual place of abode, an attested copy thereof within thirty days after the Board has notified such appellant of its decision.

Section 14. Participants. All of the officers, directors and shareholders of a corporation subject to this act shall at all times be persons licensed pursuant to the Medical Practice Act. No person who is not so licensed shall have any part in the ownership, management, or control of such corporation, nor may any proxy to vote any shares of such corporation be given to a person who is not so licensed.

Section 15. Physician-Patient Relationship. This act does not alter any law applicable to the relationship between a physician furnishing medical service and a person receiving such service, including liability arising out of such service.

Section 16. Employees. Each individual employee licensed pursuant to the Medical Practice Act who is employed by a corporation subject to this act shall remain subject to reprimand or discipline for his conduct under the provisions of the Medical Practice Act.

Section 17. Death or Disqualification of Shareholder. If the articles of incorporation or by-laws of a corporation subject to this act fail to state a price or method of determining a fixed price at which the corporation or its shareholders may purchase the shares of a deceased shareholder or a shareholder no longer qualified to own shares in the corporation, then the price for such shares shall be the book value as of the end of the month immediately preceding the death or disqualification of the shareholder. Book value shall be determined from the books and records of the corporation in accordance with the regular method of accounting used by the corporation.

Section 18. Severability. If any provision of this act or the application thereof to any person or circumstances is invalid, such invalidity shall not affect other provisions or applications of this act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared to be severable.

(Continued on Page 149)

FLAIL CHEST INJURIES — REPORT OF A CASE—

(Continued from Page 139)

toward changes in the cardiopulmonary dynamics unless properly employed. 200 to 500 cubic centimeters of blood are squeezed out of the lungs by the positive pressure thus increasing the residual capacity of the lung. **Continuous** positive pressure breathing may increase the work and fatigue of breathing. **Continuous** positive pressure breathing should be distinguished from **intermittent** positive pressure breathing which mitigates the work and fatigue of breathing but introduces the hazard of hyper-ventilation and acapnia. With intermittent positive pressure breathing there is a regular rise of blood Ph with a concomitant drop of arterial PCO₂.

Depending upon the presence of a normal circulating blood volume and existing vascular tone, the peripheral venous pressure rises with the rise of right auricular pressure transmitted by the intermittent positive pressure machine. The increased peripheral pressure increases the capillary filtration pressure resulting in a water loss to the tissues. Continuous positive pressure breathing for 30 minutes at 40 cm. of H₂O causes a loss of 4% of the blood volume to the tissues. Peripheral edema was removed by dehydrating the patient with concentrated serum albumin.

Prior to the development of modern mechanisms the chemical determination of serum electrolytes was a cumbersome and frequently inaccurate procedure. The modern hospital has a flame photometer. The results of the determinations of serum electrolytes are available within a matter of an hour to the physician to aid in his judgment of adequate fluids and electrolyte replacement.

SUMMARY

A patient with a serious chest injury is a complicated problem of physiology. It is necessary to utilize all of the skills and facilities available in the modern hospital today. Some of the methods currently available have been discussed.

P R E S I D E N T ' S P A G E



The time is drawing near for our Annual Sstate meeting. If you are not yet aware of it, the meeting will be in Sioux Falls, May 13 through 16.

The Business and Scientific meetings will be at the Cataract Hotel as well as the Exhibits. The stag will be at the Legion Club. The banquet and dance are planned for the Westward Ho Country Club. The program for the banquet is one that will give everyone a gay time.

An innovation this year will be a reception with the exhibitors on Tuesday afternoon. This will give us all an excellent opportunity to meet and visit with the people, who in a great part make a successful meeting.

On Monday afternoon will be a symposium on "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease" to be participated in by all of our guest speakers.

The Auxiliary is planning an outstanding program for the ladies. Encourage your lady to attend and become interested in our problems and how they can help us solve them. Don't ever doubt the effectiveness of the Auxiliary if we can get them inspired and working with us.

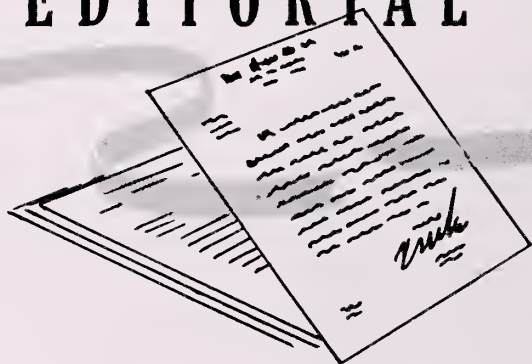
All in all it looks like a great meeting. See you in Sioux Falls in May.

Sincerely,

C. Rodney Stoltz, M.D.

President

EDITORIAL PAGE



THE BELLI SEMINARS

The incidence of malpractice cases has shown a tremendous increase in the past decade, particularly in the West Coast regions. Malpractice insurance rates have soared and in many instances the rates have become so exorbitant that the medical association themselves must finance them.

The increasing knowledge of the legal profession in medical matters, and the application of this knowledge to extracting large sums of money from doctors of medicine and their insurance companies is well illustrated in the rise of Melvin Belli, the noted plaintiff's lawyer, who has been described as "the second greatest redistributor of other people's wealth in the history of the world" (by former governor of Florida, Fuller Warren). Mr. Belli is conducting seminars for the post-graduate training of the legal profession in this line and his seminars will appear in book form published by Matthew, Bender & Co. of Albany, New York. The medical profession must anticipate increased attacks with this national trend.

The average physician is peculiarly naive until he has been involved in such a suit.

Proper records must be kept in addition to the practice of good medicine and surgery. Criticism of any previous treatment will frequently initiate trouble and the attending physician must at all times remember to exercise tact as well as professional ability in handling the patient. A physician cannot promise results and even an implied promise may result in a suit. The causes of medical legal claims are numerous, far beyond the scope of an editorial. Because of the numerous legal possibilities, the best answer to the Belli Seminar is a medical seminar on prevention of malpractice claims and it would seem advisable that this be undertaken before suits assume epidemic proportions in this area.

Robert E. Van Demark, M.D.

A LOOK BACK AT THE LEGISLATURE

With the 37th Biennial Session of the South Dakota State Legislature safely out of the way, it is proper to look back and see just what kind of a legislature it was, and how it treated the medical profession.

First, it can be stated that the body was conservative — but yet it voted a bigger budget than ever before. It was niggardly in some areas — but more than gracious to what it considered essential governmental services. It reduced “give-away” welfare money requests for the aged, but added to requests for like funds for dependent children. It endorsed medical care for Old Age Assistance recipients, but turned the same principle over to Legislative Research for people not quite on the welfare rolls.

Was it then a legislature of contradictions? Not truly so. Through the entire operation there ran a thread of thoughtful planning by the administration in power. Through it, too, ran, the thin thread of loyal opposition of the minority group, itself almost as conservative as the majority.

In the general field of health, the legislature appeared to be fraught with contradictions. “Sure-thing” appropriations for the State Department of Health ran into tough sledding and substantial reductions were made in the Governor’s recommended budget. The reason was not one of general opposition to the work of the Health Department but rather opposition to one division of the department.

The three active mental health centers and the fourth about to get under way, asked the legislature for \$230,000.00 for the biennium as a State subsidy but the joint Appropriations Committee saw fit to reduce this to the \$60,000.00 granted the previous biennium. The Legislature then raised this figure to \$130,000.00 which finally was adopted. To the casual bystander it would appear that most legislators understand little of the purpose and operation of mental health centers and a concentrated educational drive is still indicated for the center sponsors and the State Mental Health Association.

The Medical Association’s program of legislation went through with little notice and comment with the exception of the medical care for the aging programs.

Early in the session, representatives of the Association appeared before the Joint Health and Welfare Committee to explain the need for both O.A.A. and M.A.A. medical care plans at the State level. Much negotiating was carried on with administration leaders and finally a determination made that the

O.A.A. appropriation of \$740,000.00 would be made and that the two-year study would be carried out on M.A.A. The Legislative Research Council indicated that the Association’s services would be utilized in making the study.

While the administrative machinery for O.A.A. has not been established, there was general reluctance on the part of the administration to turn it over to the Welfare Department without adequate local safeguard and professional supervision. This indicates the willingness of the Governor and others to accept professional leadership in the program. More in future issues on this subject.

Looking back — it was a good legislature, hard-working, honest — its mistakes were few. Time will only tell us more than we now know about it.

MEDICAL ECONOMICS—

(Continued from Page 146)

HOUSE BILL 509

•Section 1. No physician, surgeon or osteopath, licensed under the provisions of SDC 1960 Supp. 27.03, who in good faith renders, in this state, emergency care at the scene of the emergency, shall be liable for any civil damages as a result of any acts or omissions by such person in rendering the emergency care.

Section 2. No physician, surgeon or osteopath duly licensed to practice his profession in another state of the United States, who renders in this state emergency care at the scene of the emergency, shall be liable as specified in section 1 of this act, nor shall he be deemed to be practicing medicine within this state as contemplated by SDC 1960 Supp. 27.03.

ATTEND THE
80th Annual Meeting
of the
South Dakota
State Medical Association
May 13, 14, 15, 16, 1961
IN
Sioux Falls
South Dakota



Jay Marshall, popular funny man, who has appeared a number of times on the Ed Sullivan show and the Garry Moore show, will headline the entertainment at the State Medical Association Dinner Dance at the Westward Ho Country Club in Sioux Falls May 15th.

According to his agent, a droll fellow with the unlikely name of Johnny "On the Spot" Jones, Jay Marshall was born in Abington, Massachusetts, on August 29, 1919 — so his mother says — and was a successful vaudevillian until somebody murdered vaudeville.

He has played the Palladium in London and the Hippodrome in Pottsville, Penna., and a lot of places in between.

SCIENTIFIC PAPERS

THE 80th ANNUAL MEETING PROGRAM

OF THE

SOUTH DAKOTA

STATE MEDICAL ASSOCIATION

Film "Anemia" courtesy of E. R. Squibb & Sons

"The Diagnosis and Treatment of Primary Hemorrhagic Disease," Sloan J. Wilson, M.D.,
Associate Professor of Medicine, University of Kansas Medical Center

"The Vascular Dissemination of Cancer," Stuart S. Roberts, M.D., Department of Surgery,
University of Illinois College of Medicine

"Swallowing Disorders" (Including a film on the Surgical Correction of Aphagia), Benjamin
Bofenkamp, M.D., Minneapolis

"Problems in Diagnosis of the Central Nervous System Virus Diseases," Floyd C. Bratt, M.D.,
President-Elect, American Academy of General Practice, Rochester, New York

"Carcinoma of the Uterine Cervix," Clarence McWhorter, M.D., University of Nebraska College
of Medicine

Film "Anorectal and Sigmoidoscopic Examination with Differential Diagnosis," courtesy of
Doho Chemical Corp.

"Whiplash Injuries," Ralph M. Stuck, M.D., Denver, Colorado

"Pyuria in Children," J. Harry Murphy, M.D., Omaha, Nebraska

"Management of Esophageal Hiatal Hernia," Rene B. Menguy, M.D., University of Oklahoma
Medical School

"Once a Cesarean, Always a Cesarean?," Robert A. Kimbrough, M.D., American College of
Obstetricians and Gynecologists

"Lymphomas & Leukemias," Hugh Hare, M.D., Los Angeles Tumor Institute

Symposium "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease"

MEDICAL LIBRARY BOOKSHELF



We are indebted to the Ciba Foundation for the gift of, and to Dr. Larson for the review of the following book:

Cellular Aspects of Immunity, Editors for Ciba Foundation, G. E. W. Wolstenholme and Cecilia M. Connors; Little, Brown and Company, 1960.

To those who are not specialists in immunology and serology and do not attempt to keep abreast of the latest research reports in the field, this symposium is an "eye opener." The reader will be, perhaps, overwhelmed by the realization that modern immunological research is no longer primarily concerned with the development of vaccines. Rather, serological and immunological research has, in the last ten years, graduated to an exciting and challenging level which involves genetics, what kind of cells produce antibodies, repression and induction of antibody formation, the fate of antigens, and whether or not a single cell can produce one or more kinds of antibody. Some readers may be dismayed that the concept of immunological tolerance is employed for investigating the role of the cell in antibody production, rather than the perfection of techniques for organ or skin transfer.

The symposium is composed of papers by investigators who are the world's leading authorities in immunological research. As a

result, the reader must possess the basic concepts of immunology and related fields in order to grasp the importance of the research reports. The content of most of the papers has been published previously in research journals, but much time and effort would be required to glean the information from the stacks. The volume will be most useful to teachers and research workers for reference purposes. It does, however, provide very provocative reading for biologists and others who are interested in antigen and antibody interactions.

A. D. Larson, Ph.D.

Associate Professor of Microbiology

A book in our Medical Library which has proved encouraging and helpful to several expectant mothers among the medical students' wives is Grantly Dick-Read, **Childbirth Without Fear** 2nd ed. Harper, 1959. This is a book which describes the principles and practices of natural childbirth. Many women have successfully followed Dr. Dick-Read's teaching and have experienced relatively painless childbirth. The successful application of this theory applies only to normal and uncomplicated parturition. The theory of natural childbirth is based on the assumption that the influence of superstition, civilization and culture upon the minds of women have resulted in fears and anxieties concerning

labor which have given rise to natural protective tensions in the body. This particularly influences those muscles which close the womb and oppose the dilation of the birth canal during labor. This resistance gives rise to pain because the uterus is supplied with sensitive nerve endings which record pain arising from excessive tension. Dr. Dick-Read demonstrates and explains how fear may be overcome, tension eliminated with physical and mental relaxation.

Some of the contents of the book include the anatomy and physiology of the mother and child during pregnancy and delivery; proper use of anesthetics; misuse and harmful effects of drugs used to relieve pain in labor; an explanation of fear, diet and exercise in pregnancy; antenatal schools of instruction and their organization; natural childbirth in an emergency and breast feeding. Photographs and an index are included.

It is not to be wondered at that women in early days feared childbirth. The following are some of the historical data on the history of Gynecology taken from Bettmans, **A Pictorial History of Medicine**, Thomas, 1956, and John Kobler, **The Reluctant Surgeon: a Biography of John Hunter**, Doubleday, 1960.

In AD 1540 gynecology was engulfed in medieval darkness. To bring about labor, a pregnant woman was asked to run up and down stairs or shout at the top of her lungs. Noxious doses were poured down expectant mothers' throats. The only time a midwife called a surgeon was when a normal birth seemed hopeless and he sometimes was forced to drag the dead child piecemeal from the womb with iron hooks. As early as 1280 the Council of Cologne decreed that midwives should pry open the mouth of a woman who died in labor "so the child would not suffocate."

One man did practice midwifery with success in Padua and Venice. He was Scipione Mercurio, who started out his career as a Dominican Monk, and in 1595 published a midwifery handbook in which he gave the first lucid report of a Caesarian operation performed on a living mother. He also reintroduced the hanging leg position. Actually primitive people had more advanced manual aids for birth than the medieval midwives.

If a doctor was called to give advice, he had to remain behind a curtain and could take no active part in the delivery.

In 1670, Louis the XIV, after watching from behind a curtain the birth of a child to his mistress, Madame La Valliere, delivered by Dr. Jules Clement, made Dr. Clement the official accoucheur.

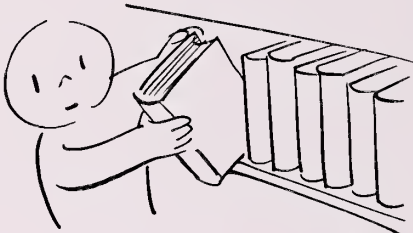
In the 1700's, William Smillie brought midwifery within the orbit of medicine in spite of the tremendous opposition of the female midwives and many of the fashionable doctors of the times. He not only practiced midwifery but gave courses in it in his own home. Dr. Smillie believed in the use of forceps which he covered with leather to avoid alarming the mother by their ominous clanking. He believed the professional attire for a male midwife should be feminized. Since he was a large, burly man with monstrous hands, he must have presented a ludicrous figure, dressed in a loose night-gown under which he carried his instruments so as not to frighten his patients, and with a bonnet on his head to cover his wig. No respectable woman would expose her body to the doctor's gaze, so he had to operate under the sheets. Once he cut the umbilical cord above instead of below the ligature which he had tied, and the baby almost bled to death before he could retie the cord. Knowing what the attendant midwife would say about this, he told her that this accident which she had been privileged to witness was his unique method of preventing postnatal convulsions, which absurdity she accepted.

It was the rapid development of the use of obstetrical forceps that weakened the monopoly so long enjoyed by the sisterhood, because they could not muster the skill to use them and were forced to call in their hated male competitors if they were not to lose mother, child, or both. These emergencies comprised the bulk of Dr. Smillie's practice and it infuriated him that he was seldom allowed to assist in a normal labor. American obstetrics started in mid-ocean. In 1630 a woman passenger aboard the pilgrim ship "Arabella" was delivered by a midwife who was rowed over from the sister ship, "Jewell." One of the early American midwives, Ann Hutchinson, stirred up trouble by voicing enlightened views on the rights of women and was banned from the Massachusetts Colony. She and her family were later killed by Indians, and the Hutchinson River Parkway near New York perpetuates her memory.

Esther Howard
Medical Librarian

The ? cost of Medical Care...

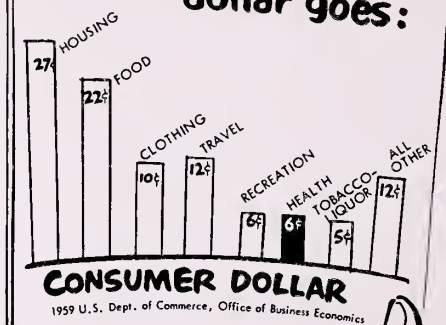
Please don't ask me "**WHAT'S MY HEALTH WORTH?**"



I know my health is a priceless asset. If I'm sick, I want the best care there is.

But is medical care taking a bigger bite out of my dollar? That's what I'd like to FIND OUT.....

Where today's dollar goes:

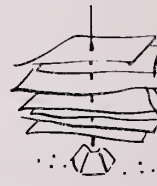


hmmmm.....
so today I'm spending only **6¢** of my dollar for **HEALTH!**

Mr. Average American

In a quandary trying to explain medical care costs in the light of today's over-all rising prices? If so, you'll be interested in these pages from the American Medical Association's new booklet "The ? Cost of Medical Care." This 16-page cartoon pamphlet is being distributed through your state medical society.

Yes--but--aren't my health bills **HIGHER** than they used to be?

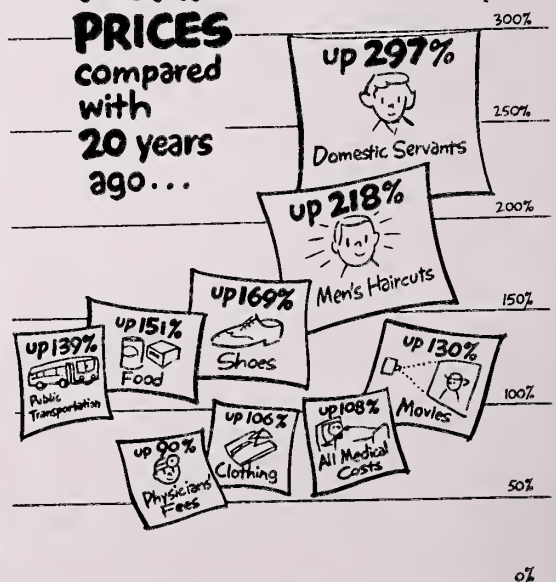


...in terms of **INFLATED DOLLARS**--yes, like everything else...but let's compare the **PERCENTAGE** of increase in the prices of some things **today** with **20 years ago!**

Actually--Doctors' Fees haven't risen as much as many other prices.



TODAY'S PRICES compared with 20 years ago...



NOTE: Figures used in this booklet are the most recent available... "today" is 1959 and "20 years ago" is 1939.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

The doctor should always remember that he **Chose** his profession as a service to mankind, and be dedicated to that. Financial gain is inevitable, but secondary, to human well being. If you have told your patient that your treatment is only a trial, you are entitled to your charges, but if he has been led to believe it is your assurance of help, and it fails, you may be making an enemy not only for yourself, but to the entire profession, when you charge a big fee for such services.

HOSPITAL ADM. PROGRAM STARTS

A new program of education in hospital administration was initiated in September 1960 at the University of California, Los Angeles. The program is given by the

School of Public Health, newly accredited by the APHA in 1960.

Two types of graduate students are accepted, and two degrees are offered. Holders of prior doctorates in medicine, osteopathy, dentistry and other fields related to the healing sciences, and other individuals who may be specially qualified by academic training or experience, are carried in a program leading to the Master of Public Health degree. Other students who hold bachelor's degrees and who meet the academic requirements (C plus average) of the graduate division of the University of California, Los Angeles, are carried in the program leading to the degree of Master of Science in Public Health (Hospital Administration). A further division of course work makes

it possible for certain students to concentrate in mental health administration, either mental hospital or community mental health agencies.

The program of formal studies for M.S. and M.P.H. students varies only slightly. Tuition is free to residents of California; for a nonresident, tuition was \$250 per semester for 1960-1961 school year.

The academic portion of the course consists of hospital administration, medical care and health administration 18 units, plus courses in epidemiology, biostatistics and environmental health — 9 units (minor deviations may be permitted, depending on students.)

A 12-month period of administrative residency is included in the M.S. program, but in the M.P.H. program

the length of the administrative residency may be reduced by virtue of previous experience, special studies or planned periods of travel and observation. It is contemplated that the administrative residencies will be in the Los Angeles area, thus permitting continued contact between the faculty of the school, preceptor and the administrative resident.

7th DISTRICT SOCIETY HEARS RUMBOLZ

The Seventh District Medical Society met in Sioux Falls at the Cactus Heights Country Club on March 7th to hear a paper by Dr. William Rumbolz on "Abnormal Uterine Bleeding."

Dr. Rumbolz is on the staff of the University of Nebraska College of Medicine in the Department of Obstetrics and Gynecology.

NEWS NOTES

Dr. and Mrs. E. H. Collins, Gettysburg, toured the Lederle Laboratories in New York in February.

* * *

Dr. Roy K. Kramer, Yankton, was married Feb. 11, to Barbara Hickey in San Gabriel, Calif. Dr. Kramer is associated with the Yankton Clinic.

* * *

Drs. R. F. Hubner and M. A. Auld and their wives, Yankton, spent a March vacation in Hawaii.

* * *

"Irv" **Kvien** has recently become associated with Physicians and Hospitals

Supply Co. and will be calling on South Dakota physicians. "Irv" is well known in the State as detail man for a large pharmaceutical house.

* * *

A paper from the May, 1960 **South Dakota Journal of Medicine and Pharmacy** has been reprinted in the **American Association of Industrial Nurses Journal** in its February issue. The article was by Dr. Dean Gaffney, D.D.S. on "Examination of the Oral Cavity."

* * *

Dr. C. F. Falkner, for the past year located at Deadwood, has established a practice in Chamberlain. Dr. Falkner is a native of Canada and was educated at the University of Manitoba.

ROSEBUD DISTRICT ELECTS OFFICERS

The Rosebud District Medical Society met in Winner, S. Dak. February 16 at 8:00 p.m. Officers elected for the year 1961 were **Richard L. Lillard, M.D.**, President; **David Stutenberg, M.D.**, Vice-president; **Robert L. Stiehl, M.D.**, Secretary-treasurer. Delegate elected was **R. W. Roesel, M.D.**; Alternate Delegate **Edwin P. Sweet, M.D.** and Councillor remains **E. P. Sweet, M.D.**

SYMPOSIUM FOR ANNUAL MEETING PROGRAM

A Symposium on "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease" will be held during

the annual meeting of the South Dakota State Medical Association on Monday, May 15, 1961. The panel will consist of guest speakers, outstanding in their fields, who will discuss diagnosis and treatment of cases presented to them. **If you have patients with unusual and interesting problems or diagnostic and therapeutic problems relative to neoplastic diseases, please send complete information, including case histories, laboratory and x-ray findings, operative procedures and treatment so that they might be readied for possible presentation to the panel.** We hope to make this afternoon session very interesting to everyone and this can be done **if we have material available.** Please send this information to **C. S. Larson, M.D.**, 303 South Minnesota Avenue, Sioux Falls, South Dakota, as soon as possible and prior to May 1st.



Photo by Truesdale Studio

New citizens, **Dr. Eric Muller** and his wife, of Tripp, South Dakota, pose for their picture during a social event held in their honor at the Walter Hattendorf home. Dr. Muller has been practicing in Tripp for the past year. He is a native of Germany.



PHARMACEUTICAL

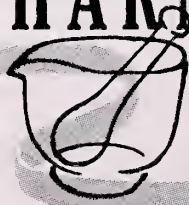
SECTION

HAROLD S. BAILEY, PH.D.

EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota

PHARMACEUTICAL *Paper*



CLINICAL AND PHARMACEUTICAL ION EXCHANGE REVIEW*

Every cell membrane of every living thing is, in a sense, an ion exchange mechanism. In fact, ion exchange was first described by Thompson and Way in 1845 as a process discovered during biological studies on soils and plant roots. After the introduction of high capacity synthetic ion exchange resins by Rohm & Haas Company in 1940, it was only natural that biological and medical applications of ion exchange should be among the early research projects. Research in this field resulted in 1946 in the production of Amberlite XE-58, a weakly basic, polyamine type, pharmaceutical grade anion exchanger. This resin was used in peptic ulcer therapy for the reduction of gastric acidity.

Today the number of applications for ion exchange resins in pharmacy and clinical medicine has multiplied and found such diverse uses that a review of the field is in order. In these many applications, one or

more of the properties of salt-splitting, sustained release of drugs, formation of drug carrying complexes with resins, tastemasking of therapeutic agents, and improved tablet disintegration have been utilized in the improvement of pharmaceuticals and their processing, the introduction of new or refined clinical tests, and the use of ion exchange resins as therapeutic agents in their own right.

Antibiotics

In 1948 streptomycin production was simplified by the use of Amberlite IRC-50, a carboxylic type cation exchange resin. In this process, the antibiotic is adsorbed selectively from the crude liquor, concentrated on the resin, and eluted for use in highly purified form. Another early application of synthetic ion exchange resins in this growing field was the use of Amberlite IRA-400 in the selective removal of penicillin from the crude. Ion exchange resins are employed in streptomycin, Kanamycin-B, Hygromycin-B, Polymyxin and Bacitracin purification.

* Material appearing in this review was obtained through the courtesy of "Amber-Hi-Lites" published by the Rohm and Haas Company, Philadelphia, Pa.

Blood

One of the early applications of the salt-splitting ability of the ion exchange resins was in the preparation of whole blood for storage. Even with the addition of citrate and dextrose, whole blood could not remain long under refrigeration without clotting. By passing the blood through the sodium form of a strongly acidic cation exchange resin (Amberlite IR-120), the calcium ions were effectively removed and the clotting ability of the blood was inhibited. This was an effective method, but left unsolved the problem of possible infection of the patient receiving a transfusion, through the presence of serum hepatitis in prepared blood. This virus is difficult to detect, but by passing the blood through Monobed MB-2, an intimate mixture of Amberlite IR-120 and Amberlite IRA-410 resins, serum hepatitis virus is removed.

In clinical diagnosis by blood tests, cation exchange resins are used in Rh factor determinations while ion exchange chromatographic methods are employed for amino acid analysis of blood and other body fluids. The separation of globulins and plasma proteins can be effected by the addition of a zinc glycine reagent followed by passing the plasma through a carboxylic acid cation exchanger (Amberlite IRC-50). The ion exchange chromatography of hemoglobin porphyrins is on the way to yielding reliable clinical determinations.

Sodium content of blood can be determined by ion exchange analysis, and sodium reduction therapy can be accomplished by treatment with cation exchange resins, for the alleviation of edema, in the treatment of congestive heart failure, and in obtaining favorable responses to epilepsy.

Endocrinology

The determination of endocrine secretions in the blood and other body fluids is often difficult because of the minute quantities in which they are present. Ion exchange chromatography again comes to the fore in making possible qualitative and quantitative assays of some hormones. Methods have been described for the resolution and isolation of active components of ACTH with concentrates of corticotropin on a weakly acidic cation exchanger.

One of the more reliable pregnancy tests involves the injection of a urine sample from

the woman into a male frog. The release of sperms by the frog is a positive indication of pregnancy. In order to give results, the frog should not die from toxic substances in the urine before the release of sperms. By first passing the urine specimen through a column of pharmaceutical grade carboxylic acid cation exchange resin, it is sufficiently detoxified to permit the completion of the test. A more recent pregnancy test for women is based upon the competition between a strongly basic anion exchange resin and the alpha globulin fraction for radiothyroxin.

In endocrine research, ion exchange resins are used to separate phenolic from non-phenolic sex hormones; and in the synthesis of pituitary arginine vasopressin, ion exchange chromatography has shown the identity of synthetic and natural hormone.

Urological Tests

A number of diagnostic urological tests involve the use of ion exchange resins. One interesting test renders the stomach tube unnecessary for the accurate pH determination of the stomach contents. The carboxylic cation exchange resin Amberlite XE-64 is introduced orally in the quinine form. Elution of the quinine is directly proportional to stomach pH, and fluorometric evaluation of the quinine in urine samples is directly related to the quantity of free HCl in the stomach. Even this method has been improved by the use of the dye Axure A in place of the quinine, in which standard colorimetric equipment will produce the same results.

Standard control samples of urine, which are capable of prolonged storage, are prepared by passage through a column of Amberlite IR-120 strongly acidic cation exchange resin type to remove Na⁺, K⁺, and Ca⁺⁺.

Resin-Drug Complexes

Ion exchange resins have been used for tastemasking of drugs which alone are too irritating or too unpalatable for the patient. Paraminosalicylic acid, for the treatment of TB, is such a therapeutic agent. When it is adsorbed on a weak base anion exchange resin, however, it may be taken orally without irritation.

Ion exchange resins are also valuable to effect the sustained release of drugs over a period of time. By the use of proper resins, drugs can be made effective over a period of many hours, reducing their toxicity, and

for inflammatory

YOUR CHOICE OF FIVE TOPICAL FORMS

Neo-Aristoderm[®] Foam

Neomycin—
Triamcinolone Acetonide

7.5 cc. and 15 cc.
push-button dispensers
Neat, not messy or sticky—
spreads readily without
irritation or burning—for
oozing, crusted, severely
inflamed and injured skin
or mucous membranes.

Each cc. contains:
Aristocort Triamcinolone Acetonide, 1 mg. . . . 0.1%
Neomycin Sulfate, 5 mg. 0.5%

Precautions: Contraindicated in herpes
simplex. Sensitivity reactions to
neomycin occasionally occur.



Aristoderm[®] Foam 0.1%

Triamcinolone
Acetonide

7.5 cc. and 15 cc.
push-button
dispensers

Precautions:
Contraindicated
in herpes simplex



Aristocort[®] Cream 0.1%

Triamcinolone
Acetonide

Tubes of 5 and 15 Gm.

Precautions:
Contraindicated
in herpes simplex.



and allergic skin conditions . . .
simple, sparing application — prompt, symptomatic relief —

Aristocort[®]

Triamcinolone Acetonide

topicals

HIGHLY ACTIVE WHEN DIRECTLY APPLIED TO SKIN LESIONS

A recent study has demonstrated the efficacy of triamcinolone acetonide 0.1 per cent in 222 patients with a variety of allergic and inflammatory dermatoses. The conditions included in the study were contact dermatitis, seborrheic dermatitis, neurodermatitis, atopic dermatitis, and pruritus vulvae.

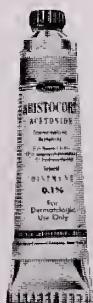
The anti-inflammatory and antipruritic efficacy of triamcinolone acetonide was shown by the prompt control of itching and resolution of affected areas. Cahn, M. M., and Levy, E. J.: A Comparison of Topical Corticosteroids: Triamcinolone Acetonide, Prednisolone, Fluorometholone, and Hydrocortisone.

Antibiotic Med. & Clin. Ther. 6:734 [Dec.] 1959.

Aristocort[®]

Ointment 0.1% Triamcinolone Acetonide

Tubes of 5 and 15 Gm.



Precautions:
Contraindicated
in herpes simplex

Neo-Aristocort[®]

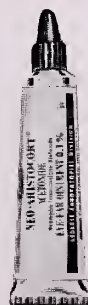
Eye-Ear Ointment 0.1% Neomycin—Triamcinolone Acetonide

Tubes of ½ oz.

For inflammatory,
allergic, infective eye
and ear conditions

Each gram contains:
Aristocort Triamcinolone Acetonide . . . 1 mg.
Neomycin Sulfate 5 mg.

Precautions: Contraindicated in herpes
simplex. Sensitivity reactions
to neomycin occasionally occur.



LEDERLE LABORATORIES
A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

making them available in a condition unchanged by contact with gastric acidity. In anorexogenic therapy for obesity, for example, phenyl-tert-butylamine in the resin form has been shown to produce better weight loss with fewer side effects.

In anti-tussive therapy, the prolonged suppression of cough, without the inhibition of bringing up phlegm has been shown with dihydrocodeinone-resin with no side reactions. In a similar way the benefits of sustained release of antihistamines, such as phenyltolozamine and pyrilamine have been shown.

Another advantage of resin-drug complexes may be shown by the fact that drug release into the lumen of the alimentary tract may be regulated to a certain extent, so that release will occur only at desirable pH. In this way, substances like vitamin B-12 which appear to be partially destroyed by gastric juice may be taken in the resin-complex form with the assurance that the greater part of the vitamin will not elute from the resin until it enters the intestine. As a result of this, greater stability in storage, and up to 5 times greater "delivery" of the vitamin to the site of absorption in the patient's body results.

Therapeutic Resins

In addition to the use of ion exchange resins for sodium reduction therapy outlined above, these ubiquitous products are used both orally and topically for the treatment of a number of pathological conditions. Early in the use of ion exchange resins Amberlite XE-58 was combined with synthetic silicates and Bentonite clay to produce an anti-diarrhea compound which has saved the lives of countless children. The action of this remedy lies in its ability to absorb indole, skatole, and other toxins.

Weakly basic, pharmaceutical grade anion exchange resins have been used as antacids and in the treatment of peptic ulcer. Strongly acidic cation exchange resins, in the potassium form, absorb sodium from both the intestine and the colon.

In kidney failure, the potassium level of the blood increases rapidly. The administration of large doses of carboxylic acid cation exchange resins in either the hydrogen or ammonium form can maintain the proper potassium balance for a time, during which the kidneys may resume their proper functions.

An outstandingly interesting piece of research was reported by Dr. Roy L. Mundy, Chief, Pharmacology Section at the Walter Reed Army Medical Center, in which radiostrontium doses were injected into dogs. At 1, 2, and 24 hours after injection, an ion exchange cartridge containing Amberlite IR-120 in the sodium form was connected between an artery and a vein. The Ca^{++} level in the blood dropped, as Ca was adsorbed by the resin. As the serum Ca decreased it was replaced by Ca and radiostrontium from the bone. This Ca and radiostrontium, in turn, was taken up by the Amberlite IR-120. At the end of the studies, it was determined that up to 60% of an intravenous dose of radiostrontium could be removed, if treatment were initiated within one hour of the dose, and substantially lesser amounts can be removed upon later treatment. Such treatment, if clinically applicable, would probably be useful in treating victims of atomic plant accidents.

Dermatology

Ion exchange resins are valuable therapeutic agents in the treatment of dermatological conditions. Typical applications of the cobalt or copper salts of Amberlite XE-64 in ointments, powders, or lotions have been shown by Thurmon to be effective against pruritis, onychomycosis, psoriasis, and dermatitis. Maintenance of skin health, through control of the pH of the normal acid-mantle, has been achieved through the use of carboxylic acid cation exchange resins.

Individuals complaining of axillary hyperhidrosis and bromidrosis have been shown to recognize almost immediate relief upon the topical application of a formula comprising aluminum sulfocarbolate. Amber XE-64, and Hydrophilic ointment (U. S. P. xiii).

The erythema, edema, and vesiculation of contact with poison ivy is attributed largely to the active agent urushiol. This is a 1, 2, phenyldiol with a side chain $\text{C}_{15}\text{H}_{27}$ on carbon 4. It is found in three isomeric forms which differ in the location of the unsaturated bonds. Because of this structure Thurmon believed that urushiol could be removed from solutions with ion exchange resins, and that this might point the way to effective treatment of poison ivy symptoms. After developing urushiol assay methods, and patch tests to determine physiologically effective dilu-

tions, and after determining that urushiol is actually adsorbed by ion exchange resins, clinical tests were undertaken with Amberlite XE-87. This is a buffered mixture of strongly and weakly basic anion exchange resins of pharmaceutical grade (Amberlite XE-69, XE-64, XE-67, and XE-58 supplied separately by Rohm & Haas), and adjusted to pH 5.5-7.0. Results of the clinical tests revealed that Amberlite XE-87 in a glycerine solution was singularly effective against urushiol as a protectant, and in the relief of discomfort and rapidity in clearing positive urushiol reactions.

A Reliable Tablet Disintegrant

One interesting use of ion exchange resins depends upon their physical rather than their chemical behavior. As tablet disintegrants, these resins offer rapid and complete disintegration of pills. Amberlite XE-88, the potassium form of Amberlite XE-64, is a dehydrated, free-flowing powder which is compounded into tablets with physiologically active agents. Within the body, it rapidly absorbs water, causing it to swell or expand, and the tablet to disintegrate in seconds. This application is particularly suitable for the disintegration of hydrophobic, wax-like drugs.

Research

The discovery that strongly basic anion exchange resins, like Amberlite IRA-400, adsorb living bacteria may lead to valuable methods of diagnosis and therapy. Of interest in this respect is the fact that the adsorbed bacteria are alive, and can be regenerated from the resin by salt solutions. Further use will almost certainly be made of the sustained release effect, to provide a constant source of medication over a period of time. Ion exchange resins will probably find wider use in retaining drugs for release under predetermined pH conditions in the body. And finally, Mundy's investigation on the direct treatment of blood by ion exchange resins portends a wider use of ion exchange principles in this direction.

STORM IN THE BRAIN*

High on a campus hill overlooking the city of Montreal, a researcher carefully pulls back the normally curled tail of a crayfish on his

lab bench.

Stretch — and with the stretch comes an electrical discharge from a single end organ, and an excellent new means for pinpointing the effect of experimental inhibiting substance on the nervous mechanism.

This is, of course, a long jump from the cerebral malfunction that, in a child or adult human being, sends the circuits that connect billions of neurons into a jangle of electrical activity, a brainstorm that spells a convulsive "grand mal" epileptic seizure.

But Montreal Neurological Institute researchers find, in the humble crayfish's reaction, still another approach in the 20th Century's probing of the mysteries of behavior.

Buried alive

Epilepsy itself — the full-scale "grand mal" seizure — was neatly described in the New Testament passage: "... my son hath a dumb spirit . . . And wheresoever he taketh him, he teareth him; and he foameth and gnasheth with teeth and pineth away."

Throughout history, this seizure was felt to be the work of spirits who entered into their victims as manifestations of evil omens, curses or sacredness.

In Biblical times, crowds witnessing epileptic seizures spat on the victim to protect themselves from these evil demons . . . Romans closed the Assembly ("the Comita") whenever an assemblyman had such a seizure . . . and in Scotland, during the Middle Ages, the epileptic woman who became pregnant was buried alive.

Hippocrates, true enough, observed that epilepsy, to him, was no more mysterious than the chills of malaria; nevertheless, the dread and persecution of the epileptic continued through the ages.

Magicians and pseudo-healers attempted countless cures, of course, including such gruesome concoctions (**not** listed in the U. S. Pharmacopeia) as bear's bile, powdered human skull, and gall fried in urine.

In the mid-1800's, sex depressant bromides were introduced as therapy, on the theory that epilepsy might be caused by an overabundance of amorousness. The result: bromides actually **did** reduce seizures. An incorrect hypothesis had produced the first effective anti-convulsant.

Phenobarbital — originally designed as a hypnotic drug — followed. Unfortunately,

* Reprinted from "The Laboratory" Volume 29, Number C1, copyright by the Fisher Scientific Company.

both phenobarbital and the bromide family had incapacitating side effects (lethargy, headache, weakness, rashes) so that until the present century, epileptics were often pretty much — literally — in the dark.

Measurement, control

No longer the "sacred disease," the "spitting disease," the "Comital disease," or the "falling sickness," epilepsy has been renamed — in today's laboratories — the "hopeful disorder."

In the U. S. alone, perhaps 80% of the country's 1,500,000 epileptics are helped by drugs, as research transforms medieval "spirits" into measurable brain disturbances, caused by injuries that make for abnormal outputs of electricity from the neurons of the brain's highly developed cerebral cortex. This is the network of some 13,000,000,000 interconnecting cells that form the brain's surface.

The big name in epilepsy is EEG—abbreviation for electroencephelography — the brain-wave recorder invented by German psychiatrist Hans Berger in 1929.

As Dr. Frederic A. Gibbs, Director of Electroencephelography at the University of Illinois, observes: "EEG gives us an 'electron-eye view' of the brain disorganization that causes the excess charge."

Electrodes, fastened to the patient's head in places corresponding to strategic locations on the brain's cerebral cortex, are wired to a recording instrument. The brain wave rhythm — an electroencephelogram — is then traced, indicating the nature of the brain disturbance (fast, slow, etc.) and its location. Result: a characteristic picture for each type of seizure.

By depicting abnormal waves that fall short of producing seizures, EEG detects a **predisposition** towards epilepsy as well.

And EEG throws light on other focal brain diseases: tumors, brain abscesses, progressive degenerative diseases, lipid storage diseases, encephalitis.

Thanks to EEG, Montreal Neurological Institute neurosurgeon Dr. Wilder Penfield has, in fact, "mapped" the brain and removed tissues that caused epileptic seizures in a patient.

By probing the exposed cortex with an electrode, he provokes involuntary reactions associated with the part of the brain stimulated. (The world now knows how, during

one operation, Dr. Penfield made a patient hear familiar music by probing the area of the temporal lobe where memories are stored.) At the same time, EEG is used to record the brain waves, and — when an attack warning is noted — deeper probing into the gray matter reveals the seizure-producing area.

Mysterious spikes

Meanwhile, in Boston, finding the origin of mysterious 14-per-second electrical "spikes" spontaneously emitted by the brain is the current aim of Dr. Cesare Lombroso, another major figure in epilepsy research, who works in the giant city-with-in-a-city known as Children's Hospital Medical Center.

Grandson of the famed Italian neurologist-criminologist of the same name who revolutionized modern thought by theorizing that crime could have **medical** causes, young Dr. Lombroso told THE LABORATORY that there is a correlation between this curious 14-per-second electrical spike (which is a **true** surface-positive potential) and certain periodic disorders such as headaches, vomiting, fever, emotional outbursts, ever goose-pimpling.

Trouble is that these spikes are extremely hard to isolate. They occur only during drowsiness or light sleep, and in certain age groups (adolescence is most common). For some reason, the spikes absolutely refuse to be induced. So, to "trap" them, Dr. Lombroso has devised a tape-recording apparatus that will accept from patients **only** the elusive 14/sec phenomena. Result: a "pure culture" of 14/sec spikes to study and analyze.

Meanwhile, new "wide-awake" anti-convulsants, such as phenytoin sodium and its sister drugs created by synthetic chemistry, have brought epileptics out of the stupor of bromides and phenobarbital.

Today, experimental anti-convulsants with minimum side-effects are being created even faster than they can be handled by testing laboratories.

But most current research is aimed at a more basic understanding of the chemistry of the brain, of the neuron itself, and the nature of the lesion — an approach epitomized by a fantastic apparatus at Boston's Veterans Administration Hospital that enables researchers to probe the electrical pattern of a **single** brain cell through the insertion of an

infinitesimally small electrode.

At Montreal Neurological Institute and a number of American laboratories, neurochemists produce actual epileptic attacks in normal animal brain tissues by creating brain lesions, then analyze the brain tissues to uncover the "chemistry" of epilepsy.

Work at the Institute of Neurological Diseases and Blindness, in Bethesda, Maryland, has already revealed that epileptic brain tissues undergo quantitative changes in 3 normal chemicals: glutamic acid (an amino acid that causes still other chemical reactions in the brain), acetylcholine and potassium (chemical transmitters of nerve impulses).

At the University of Illinois, Dr. Leo Abood, biochemist and pioneer researcher in tranquilizers, is concentrating on the tiny (1-2 micron) mitochondria — highly organized, efficient bodies that supply energy to the neurons. Chemical and electrical stimulation excites the mitochondria, altering their structure and movement.

But Dr. Abood has found that certain proven anticonvulsants and tranquilizers will act as **sedatives**, suppressing energy output, calming excited mitochondria.

Can there be substances in the body that act specifically as built-in sedatives, suppressing excessive energy output in the mitochondria — and are they lacking in the epileptic? Dr. Abood's goal is to find out, and to construct the laboratory equivalents of these substances.

Out West: GABA

One brain chemical attracting increasing attention in the laboratory world is GABA (full name: gamma aminobutyric acid), which was isolated by Dr. Eugene Roberts at California's City of Hope.

GABA may regulate the nerve cell's electrical activity by inhibiting or modulating the transmission of impulses. Faulty regulation, then, may be due to abnormal amounts of GABA in the brain.

To control the amount of GABA, its formation or decomposition must be blocked; injecting GABA **directly** — unfortunately — does not have any effect whatsoever.

Convulsion-producing hydrazides, however, seem to inhibit the formation of GABA, thus lowering its level in the brain.

Already, researchers have set out to find a chemical agent that will raise "epileptic-low"

GABA levels to normal. Dr. Roberts reports that, thus far, the chemical **hydroxylamine** shows the most promise. It boosts GABA levels by blocking the action of an enzyme that decomposes GABA.

Not one but many

Today, most researchers agree that there is no one single cause of epilepsy but many interacting factors. Hence, the variety of their approaches.

PHARMACY STAFF MEMBER NAMED ACADEMIC DEAN AT SDSC

Harold S. Bailey has been appointed dean of academic affairs at South Dakota State College.

A member of the State College pharmacy division staff since 1951, Dr. Bailey became dean on February 1.

President Briggs explained that the appointment of an academic dean is a part of the continuing program of curriculum study at State College to meet modern needs. All academic matters of State College will be linked through the office of Dean Bailey.

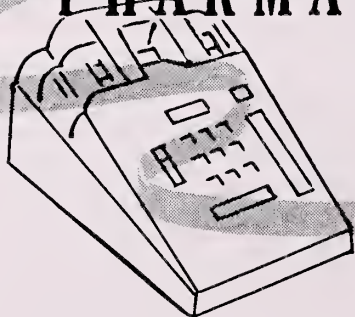
Dr. Bailey came to State College as assistant professor of pharmacy in 1951. He was promoted to associate professor in 1952, to professor in 1958 and became head of the Department of Pharmaceutical Chemistry in 1960. He has also been director of the dental pharmacy research program. He will continue in this capacity on a one-third time basis.

A registered pharmacist in South Dakota and Massachusetts, he is a native of Springfield, Mass. He holds bachelor's and master's degrees from the Massachusetts College of Pharmacy and a doctor's degree from Purdue University. He was an instructor at Purdue before coming to State College.

Dean Bailey belongs to a number of professional and honorary societies in pharmacy and chemistry. He is also a fellow in the American Association for Advancement of Science and is a member of Phi Kappa Phi, honorary scholastic society, and Sigma Xi, scientific research society.

Since 1953 he has been editor of the pharmaceutical section of the South Dakota Journal of Medicine and Pharmacy. He will resign from this position on May 30.

PHARMACEUTICAL ECONOMICS



SELLING WITH SERVICE*

by

R. H. Noel, R.Ph.**

I almost feel a little presumptuous speaking to you on the subject of sales promotion and advertising. Most of you know that during the 20 years I've been in this industry, better than two-thirds of that time has been spent in various technical capacities involving production, research and for the most part, quality control.

Perhaps my only justification for being here and doing what I am doing is because I am a pharmacist and I have learned in a short space of about four years' time that, because of this background, my point of view towards drug promotion is very often quite different from that taken by the specialist who is primarily oriented in the technical principles of advertising. These latter are, of course important and necessary principles but I think that there are instances when they receive undue emphasis in relation to what I feel is the most important of so-called "ethical drug promotion." As a matter of fact, I seriously wonder if we haven't given this function the

wrong name? You see, your point of view has to depend on what you perceive to be the problem and how best to solve it.

In my opinion there are some real good reasons for getting rid of the term "ethical drug promotion" altogether. Let me hasten to add here that I am not making even the slightest suggestion that advertising agencies be eliminated with it.

I do not for one minute propose that we eliminate the functions of what we now call Ethical Advertising and/or Promotion.

What I propose, is that we recognize — and finally give effect to this recognition — of the differences that distinguish the prescription drug industry from all other manufacturing industries and act accordingly.

We are different from other industries in — Research — both in the kind of research we do and in the amount of money we spend in this area. Why? Because the nation's health and the health of the world depend upon our success — and of this truth there is abundant evidence.

Just reflect a minute on the number of different processes utilized to produce antibiotics, corticosteroids, biologicals, and radio-

*Delivered on February 16, 1961, before the Society of Pharmacists in Industry at the New York Academy of Sciences, New York City.

**Manager of Advertising and Sales Promotion, Bristol Laboratories.

active compounds, etc., and you have to conclude that this industry has developed a diversity of production methods second to none and every step of every process — from beginning to end — it regulated by the toughest set of standards and specifications that technology can devise. Why? Because the public health is at stake.

Who do we sell our products to? Never to the ultimate consumer. Why? Because our products must be distributed and administered by licensed experts who can direct their effective and beneficial use and at the same time minimize their potential hazard. This is, again, a protective measure for the public health.

Are we different in the area of sales promotion too? I think we are and the difference that makes a difference between advertising of ethical drugs and other goods is that our products are prescribed by physicians — men and women who are bound by oath and licensed by government to employ our products only for the benefit of the patient.

As a consequence, I cannot regard the functions of my department or of similar departments in other pharmaceutical firms as advertising and sales promotion — as it is most commonly known. In my opinion our function which needs to be clearly defined if we are to execute it properly — is primarily to completely inform. We operate an information center about our products and consequently the platform for any and all of our activities must include the basic element of informativeness.

There are people who will resent our self appointment as “educators” under the guise of the term information. Unfortunately, I know of no euphemism to disguise our basic responsibility. And if information is educational — why should we disguise it anyway? The fact of the matter is that there are thousands of physicians practicing today who graduated from medical school before the discovery of the many antibiotics, corticosteroids, antihistamines, tranquilizers, etc. that they now prescribe routinely. With the exception of those who have had the time and opportunity for postgraduate courses in therapeutics, how did they learn how to use these drugs effectively? I venture the answer that they became knowledgeable via the information obtained from the medical litera-

ture, medical meetings, journal advertisements, material we send in the mail and finally to a great extent — from the pharmaceutical detail man. After all of this, the doctor supplements his knowledge with that all-important ingredient — personal clinical experience.

I don't think anyone will deny that if ours is the function of keeping the doctor informed, then we are in fact operating a technical information service for him and indirectly, his patients. And that word patient makes a big difference. It means that we can never be impersonal in operating this service because at the end of the line there is a human being who can be seriously affected — for good or bad — by the information we impart. If this is our real responsibility, and I think it is, why don't we call this activity by a name which more correctly describes its function?

My brief experience leads me to believe that I am more a manager of a technical information service rather than an advertising and sales promotion manager. Of course we use a great many of the advertising tools available because much of good advertising is, of necessity, informative.

While my only reason for suggesting that we discard the name advertising as a descriptive term is because it does not correctly describe our function, there may be some beneficial “fall out.” No one will deny that many people in our audience automatically associate the “overstatement of facts” with the word “advertising” and “exploitation” with the phrase “sales promotion.” In fact, many doctors today find everything we say about our products unbelievable because this is what advertising and sales promotion has come to mean to them. I know that they are wrong, because I have come to know of the competence and dedicated effort of so many real capable men and women in ethical drug promotion. But notwithstanding this knowledge I must also admit that even the best of their efforts are automatically regarded by many as an expedient exploitation of scientific insignificance and, therefore, unbelievable, untrustworthy and wasteful of money.

But honest explanation is not exploitation and all advertising is not unnecessarily boastful and wasteful of money. The dissemination of accurate, practical information about

drugs to the physician is a service which will help him in his practice and thereby help his patient. It's a kind of a service that is based upon a sincere desire to help the physician practice good medicine. Despite the occasional caustic criticism and the accusations of usurping the prerogative of the medical educator, I believe that this is "Good Pharmacy" (if I may coin a phrase). "Good Pharmacy" is the basic element that governs our attitude about research, production and distribution. Why shouldn't it be of equal importance to advertising and sales promotion? In my opinion Good Pharmacy and Good Medicine go hand in hand, each with its own responsibilities but both for the benefit of everybody — and when something is good for everybody it ought to be good business!

If you will agree that our responsibility is one of disseminating vital information that can affect the health of a fellow human being, then we perhaps ought to consider some of the operative principles involved.

First of all, such important information as we are concerned with, must adhere to scientific truth in every detail. And the truth must cover the negative as well as the positive revelation. It is not enough to avoid the obvious falsehood — one must ever beware of falling into the trap of the semantic misleading implication. (I say trap advisedly here because this is so often an honest error when it occurs — in fact it is often so subtle that upon discovery in retrospective examination nobody would ever give anybody else credit for its preconception.)

To state the truth is one thing — to state it in a way that it will not be misunderstood by any in the entire intended audience is another. Here is an area which requires long and careful thinking — for there is a wide gap between the perception of the sophisticated and that of the credulous.

In short we must adhere to the principles which should direct all scientific reporting and that is stick to and stay with the scientific truth and make it unmistakably understandable.

If we insist on the absolute best in quality in our research laboratories, in our production methods and our quality control programs, how can we be satisfied with anything less in drug promotion? Isn't it a little silly to permit a gap to develop between the qual-

ity and effectiveness of our products and the quality of our promotion? It's not only silly — it's bad business — for the gap will grow and the gap between our industry and the medical profession will grow with it. And who will suffer? The patient!

Tomorrow's doctor will be increasingly enlightened, not only in his technology, but also in the arts and humanities. This will be a challenge, for our audience of physicians will be, and is becoming, increasingly analytical and critical — extremely reactive to the informative message and callous to outmoded surface "product pitch."

The doctor is a layman in everything except medicine and consequently he is fully aware of the economy we operate in. He knows about the techniques of communications and the advertising of non-medical products just as you and I do — and he finds it distasteful when he recognizes some of these techniques being used for promoting things medical. That's another reason why we have to be different.

Some of the things that bother him are problems for me and you to solve. Let's discuss a few of these briefly.

The Significance of the Insignificant

We are often criticized for overemphasizing certain drug properties. This is one of our most difficult problems of communications for both the transmitter and the receiver. Usually it arises from certain laboratory data, factual in every detail, which should, by all the laws of scientific reason provide certain therapeutic benefits. But, because there are no methods available for providing unquestionable proof of superior value in the clinical setting, any implied advantage can be questioned — even though it's backed by expert opinion. Now, "expert opinion" differs like every other opinion and therein lies the problem. I speak of such things as superior absorption and better blood levels, in vitro spectrum of antimicrobials and the time span of sustained released medications as a few examples. Advantages, if any, often depend upon knowledge derived from pharmacological, microbiological and physical laboratory methods respectively — many times there is just no way to provide the clinical proof of the indicated advantage and yet from all of the other knowledge we have we must admit to the probability of its existence.

Is is right, therefore, to point out this kind of a property in a drug product communication? I think it is if you state the facts with scientific accuracy and qualify any claims of clinical benefits with some statement to the effect that laboratory findings do not always correlate with clinical results. To a doctor this is most believable — he has made this same kind of observation many times when utilizing clinical laboratory tests as an aid in diagnosis.

We can partly avoid this criticism then by sticking to the facts and properly qualifying clinical implications. I prefer this to the selected quotation of the opinion of the expert no matter how authoritative, for in the absence of the data that are really necessary, he has no special right to extrapolation.

Semantic Smog

In our copy we must not be guilty of creating "Semantic Smog" even though there are occasions when the coining of a word or phrase is more authentically meaningful than anything else available. It's so easy for creative people (and those in the business of informative communications are generally creative) to fall into the trap of turning a message into a lively, entertaining, witty, interesting, intellectual masterpiece of an assembly of words. At times the literary efforts is so great that it overshadows the fundamental intent of the communication — that is to provide information about the drug. In my opinion it requires just as much imagination to impart facts in simple, uncluttered language as it does to surround them with any number of semantic gimmicks. I'll have to admit that the latter technique is more entertaining to the writer but many times less informative to the reader.

This is getting to be a tough job because of the ever-increasing number of products that each have minor, but many times important differences from each other. The rewards in this area will not come to him who is the "cutest" but rather to him who presents the facts — both positive and negative — with absolute candor.

If we do this right we can overcome the criticism of "too damm many chemical cousins which are all the same."

We can and should market closely related derivatives even though the degree of greater activity or fewer side reactions may not be

great. For the same reason that we continually increase the rigidity of the standards of purity of drugs, we should continue to make available products which have increased activity or fewer side effects or any new property that has some value in therapy. We must be careful, however, how we present the facts about such products to the profession lest we be accused of trampling the truth in the pursuit of avarice.

Even when two derivatives are of identical value, I'm of the opinion that our society considers it beneficial to have two or more competing products on the market. Among the many that competition will accomplish in the long run is keeping product claims within bounds and, I might add, prices within reason.

Snowtographics

Now I've also heard some criticism about something I call snowtographics.

This is the "snow job" that comes, not from words, but from art, photography and the like. It is true that a picture is worth a thousand words — but you had better be careful what kind of words, or better still, what kind of ideas they generate.

Pictures can mean different things to different people and we have to be sure of what we want them to mean when we communicate with the physician. I am no expert in this area and I rely on my agencies to supply the proper art. I hope, however, that my pharmaceutical reaction along with medical reaction from the doctors in our Medical Department, helps to keep our product images within the bounds of good taste, propriety and dignity.

Austerity vs. Elegance

It's easy for some to come to the conclusion that our attention to elegance is a wholesale waste of money which should have been more beneficially applied to the reduction of the product price.

The fact is that the elegance of our communications should provoke a compliment to the ingenuity and efficiency of the people who produce them. It's surprising but true that the difference in cost between sloppiness and pharmaceutical elegance was something that you finally appreciated as essential to the profession or else you didn't graduate.

I happen to feel that the communication of information about drugs is just as much a

part of pharmacy as research, production and quality control. Therefore, the format that information takes should have the element of pharmaceutical elegance too. You know the kind of elegance I mean and so you know that it rejects gimmicks, tricks, pompous extravagance and anything which is unrelated to a professional service.

Finally, I think our function goes beyond the dissemination of product information. Since we work together with the medical profession for the benefit of the people, I think it is proper for us to provide other legitimate services. What I'm talking about is providing descriptions of new diagnostic techniques, distributing diagnostic aids such as antibiotic sensitivity discs, producing and making available visual material including educational movies and the like and finally the sponsorship of Symposia. Now all of these services cost money and we are criticized for producing them. If their sole purpose was to sell products, then I would be the first to agree that criticisms were in order. But if these services are really informative then I think they are necessary and the cost justified — for where else will the doctor get the information?

The real 64 dollar question concerns the sponsorship of Symposia. I have heard of the most unwarranted and unjustified criticism of both manufacturer and medical institution for sponsoring Symposia that were completely devoid of any commercialism whatsoever. I've attended many such symposia myself and their informational value is sometimes priceless. You get the whole story by hearing formal presentations and informal discussion. I can think of no better way of getting to the roots of some vital subject matters. If we need a set of rules for sponsoring such valuable and informative sessions, then for heaven's sake let the most critical set them forth for we must continue to have such Forums or live in ignorance.

"The drug industry is peculiar in the emotional reaction it evokes from most people. It owes its existence to the misery of mankind; without sickness it would be nothing. So it is at once essential and subconsciously resented."

If you believe this to be true then our professional, moral and business thinking about selling must be of highest integrity.

FACTS OF INTEREST TO DRUGGISTS

A physician may prescribe, and the registered pharmacist may fill the prescription from over 172,000 items produced by almost 7,000 drug manufacturers.



DRUGGISTS MUTUAL INSURANCE COMPANY

HOME OFFICE

ALGONA, IOWA

Full-time, salaried Druggists Mutual fieldmen are always at your service. Our fieldman's unbiased counsel and advice in the field of insurance can be helpful to you.

PRESIDENT'S PAGE

Rx



Ask any drugstore owner today, whether he is located in a large metropolitan area or situated in a small town, how he feels about other business outlets merchandising items — and selling more of these products — that he had enjoyed a few years past. His answer would be of much concern and probably would top his greatest worry.

It is true that we in the drugstore profession have lost sales in mens' and womens' toiletries, several sundries and over the counter drugs.

This all happened because of our being contented with the way our fathers or previous owners of the business operated. But today we can combat this competition best by offering professional service. Give the customer an awareness that you have his interests in mind when you make a sale. Correct him on his errors when he picks up his roll of developed film. Give personal advice on what hair dye, shampoo, or shaving cream would best serve his purpose — and follow this sale up the next time he is in your store. The other stores do not exercise this service. They make the sale and then forget their customer.

Good personal contact with the customers interest in mind will more than get your share of these sales. Manufacturers will then again rate the drug store their number one outlet for their products.

Sincerely,
Albert H. Zarecky
President

PHARMACEUTICAL *Paper*



SIX-STATE PHARMACY MEETING HELD AT SDSC

Pharmacy students and faculty from a six-state area assembled on the South Dakota State College April 15 for the bi-annual Province VIII Assembly of Kappa Psi Pharmaceutical Fraternity.

Gamma Kappa Chapter acted as host for this regional meeting. Province VIII includes chapters of the Pharmaceutical Fraternity located in Minnesota, Iowa, Nebraska, Kansas, North and South Dakota. The one-day program included talks and panel discussion on fraternity matters and chapter activities.

Speaker at the banquet was Dr. Boyd Granberg, professor of pharmacy at Drake University, College of Pharmacy. Granberg is also editor

of the American Journal of Pharmaceutical Education. His topic for the evening was "A Prescription for Failure."

Approximately seventy-five pharmacy students and faculty fraternity members attended the program.

RHO CHI INITIATES

At a recent initiation ceremony, Sharon Rae Mix, senior pharmacy student from Brookings was initiated into Tau Chapter of Rho Chi, National Pharmacy Honorary Society.

Other student members include: Edward Mahlum, President; Maurice Tobin, Vice-President; Excellda Watke, Secretary-Treasurer; Vernon Henrich, Historian, and Robert Reutzel.

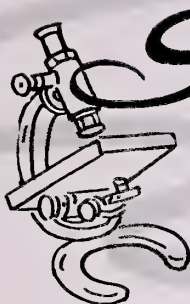
RECEIVE RHO CHI AWARDS

Jean Engelhardt, sophomore pharmacist of Hartford and Patricia Hauck, junior pharmacist of Rapid City received the annual awards presented by Tau Chapter of Rho Chi, National Honorary Society. The awards were given at the February meeting of the student branch of the American Pharmaceutical Association.

Basis of the awards is academic achievement and leadership in the Division of Pharmacy and in the various student organizations.

Miss Engelhardt was presented an edition of Goulds Medical Dictionary.

Miss Hauck received an edition of the Merck Manual.



Scientific

P A P E R

Another Endobronchial Foreign Body, A Plastic Toy Tooth

John B. Gregg, M.D.
Sioux Falls, South Dakota
Thomas J. Carroll, M.D.
Sibley, Iowa

In children enough difficulty is encountered with inhaled or ingested toys, that one would hesitate to recommend the presentation to a young child of a toy which has great potential of becoming a foreign body. A replica of the human tooth is a most excellent stimulus to the young child to compare the toy to his own teeth, possibly by placing it in his mouth. Once in the mouth it is only a short step to the trachea or the esophagus.

Recently another different toy was removed from the left main bronchus of a child. Because it is unreported and because it potentially can very easily occur again, the case is documented.

CASE REPORT At Christmas an 8 year old girl received a "PLAY DENTIST" (See figure #1) set which was similar to the little doctor kits on sale in many stores. This kit contained plastic facsimiles of various dental instruments and included a model upper plate with little teeth to be fitted into the plate or otherwise fixed. (See Figures #2) Instructions printed upon the container outlined various practice dental procedures to be performed upon the simulated teeth by the child playing with the toy. The instructions stated in one place, in small print, "Use your 'PLAY DENTIST' instruments ONLY on the Play



Figure #1.

"PLAY DENTIST" toy set which is available in toy departments.

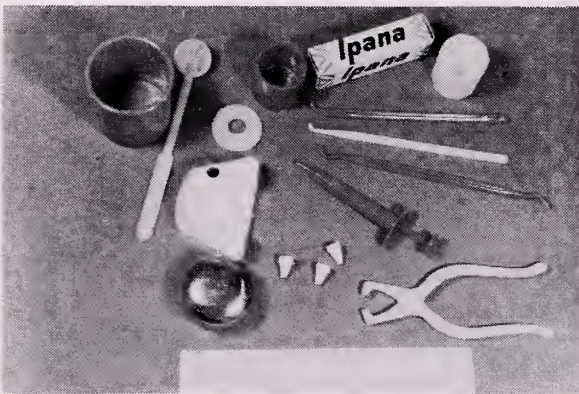


Figure #2.

Contents of the "PLAY DENTIST" set. Note the three small plastic tooth facsimiles.

Teeth or on your Doll."

While playing with the toy dentist set this child put the plastic tooth replica into her mouth and tried to compare it to her own teeth. While the plastic tooth was in her mouth she coughed and aspirated the tooth. When seen about an hour later physical examination indicated the presence of complete obstruction of the left main bronchus and a chest x-ray (See Figure #3) showed collapse of the left lung with a shift of the mediastinal structures to the left. At bronchoscopy the plastic toy tooth was found to be firmly lodged in the left main bronchus just above the offshoot of the upper lobe orifice. Fortunately the tapered end of the tooth was cephalad. The smooth surface of the plastic resisted the grasping forcep making removal difficult but the object was extracted without incident. (See Figure #4) The post operative course was uncomplicated.

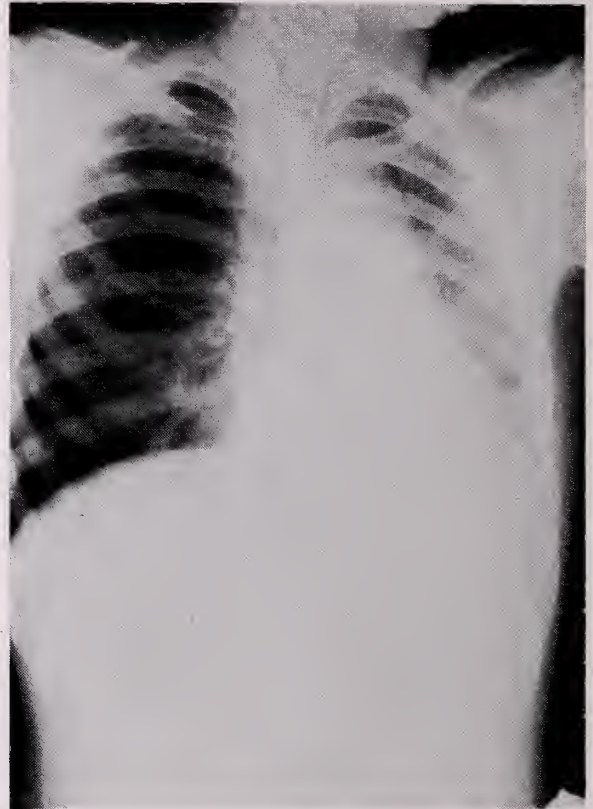


Figure #3.

Chest X-ray taken about one hour after inhalation of the plastic toy tooth showing collapse of the left lung with shift of the mediastinal structures to the left.

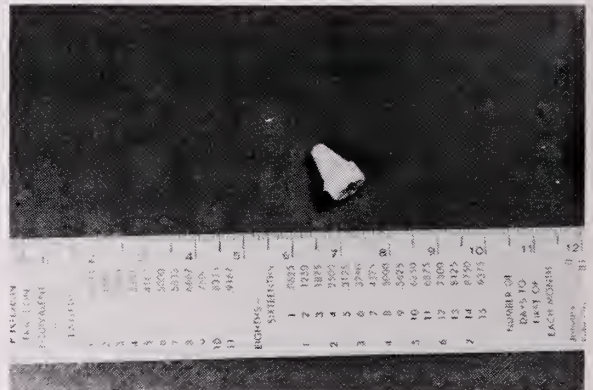
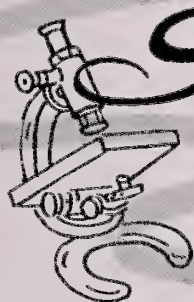


Figure #4.

The plastic tooth replica after removal from the left main bronchus.

COMMENT The circumstances recorded above should occur much more often in a small child than in an older one. However, the fact that this child was eight years old and could read quite well, but still inhaled the object, would suggest that the instructions which were printed upon the box which contained the toy were inadequate and were ignored. Larger warning printing upon the

(Continued on Page 180)



Scientific

PAPER

Trauma of the Scalp And Face

John W. Gatewood, M.D. and
Louis Sojka, M.D.

From the Department of Surgery,
Creighton University School of Medicine,
and St. Joseph's Hospital,
Omaha, Nebraska

This paper presents a combination of unusual and ordinary injuries to the scalp and face including the underlying bony structures caused by trauma to this area. These injuries are even more important today because of increasing use of high speed machinery in the home, on the farm, in the air, and especially on the highway.

An unusual example is that of total avulsion of the scalp. Interestingly enough, our case is a six-year-old-Indian-girl from South Dakota who was not scalped in the traditional manner, but by a 1955 General Electric washing machine during the spin dry cycle. The scalp avulsion began about one to two centimeters inside the anterior hairline and completely removed the scalp back to the lower occipital region. (Fig. 1 & 2) She was seen sixteen hours after injury. After washing with soap and water and irrigating with saline solution, split thickness skin grafts were sutured in place over the pericranium. About sixty-four square inches of skin was required. The dressing change on the sixth post-operative day showed nearly 100% take of the grafts. All dressings were removed after thirteen days. (Fig. 3) A wig was obtained after several months. (Fig. 4) The

* Presented at the Seventh District Medical Society Meeting.



Figure 1

Photograph of head showing pericranium sixteen hours after total avulsion of scalp.

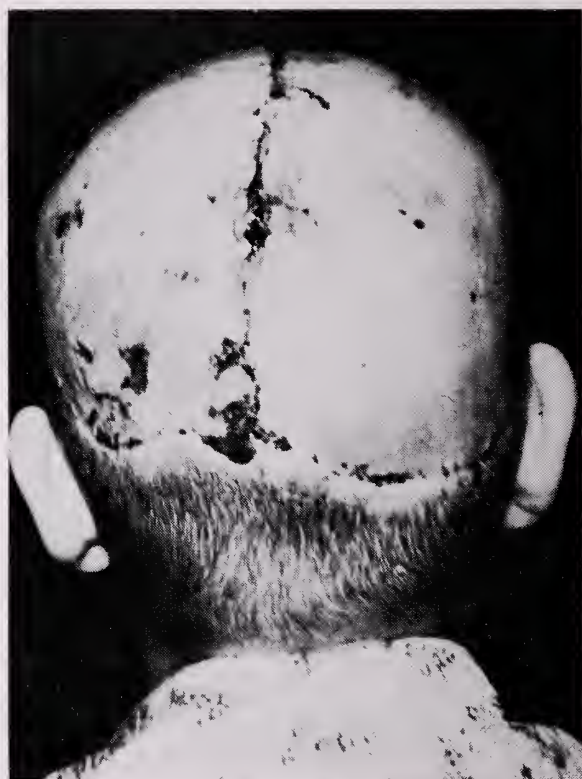


Figure 3

Photograph of pericranium covered with split thickness skin graft thirteen days after injury.



Figure 2

Photograph of avulsed scalp viewed from the under surface.



Figure 4

Photograph with hairpiece in place.

child and her parents adjusted to this injury very well.

Reconstruction of the totally avulsed scalp is a problem infrequently seen by most surgeons, and for this reason, the immediate management is usually one of hopeful replacement rather than thoughtful grafting. This occurs as a result of a desire to reconstitute the hair-bearing scalp in women whose beauty is traditionally related to their hair. The immediate concern should be saving the life of the individual rather than the replacement of the hair-bearing scalp, which in practically all instances, will not survive and may jeopardize the life of the patient. Few physicians have the opportunity to attend a second case. Most patients with this type of injury at first see a physician who has never previously seen a case.

Accurate incidence is difficult to determine. Total scalp avulsion now seen only rarely in industrial and traffic accidents was practiced so commonly by the American Indian that surgeons in the first 50 years of our country's history were well trained in the technique of making multiple perforations through the outer table of the skull to allow granulations to come up from beneath and form a protective covering over the cranial surface.¹

Most extensive scalp avulsions in recent literature are incurred by factory workers whose hair is caught in fast moving conveyer belts mechanism, rollers, wringers, or other insufficiently guarded machines. The anatomy of the scalp is such that it gives many answers to the surgical treatment of total avulsion of the scalp. The scalp is composed of five layers, being thicker in the occipital region than elsewhere. The skin is firmly bound to the galea aponeurotica by an intervening layer of subcutaneous tissue and superficial fascia that contains the major blood vessels to the scalp. Intimately connected with the frontalis muscle anteriorly and the occipitalis muscle posteriorly is a dense tendonous structure called the galea aponeurotica. The action of these antagonistic muscles draw the galea tightly over the cranium which accounts for the gaping of wounds in which the galea is cut transversely. The pericranium periosteum of the skull is the layer immediately below the subaponeurotic layer. This is a fibrous membrane containing blood vessels and attached intimately to the

outer table of the skull.

Five paired arteries supply the scalp. These are the frontal and supraorbital branches of the ophthalmic, the superficial temporal and posterior auricular branches of the external carotid, and posteriorly, the occipital branch of the external carotid artery.

Anastomosis of vessels across the midline is not generous and this should not be relied upon for flap viability. All scalp vessels are peripheral and are not branches of perforating vessels, as in other areas of the body. This, then, obviates the need for under cutting of scalp flaps in delaying procedures. This fact is also of utmost importance in the selection of flaps to be used and of direction of incision to be made in the scalp.

The large veins in the superficial layers of the scalp more or less parallel the arteries; but certain of them are connected by small veins, the emissary veins which pass through the skull to the large venous intracranial sinuses. In addition, there are diploic veins which communicate with the meningeal vessels and the sinuses of the dura mater as well as with veins of the pericranium. By means of these vessels, infecting organisms can gain ingress to the intracranial vessels and produce meningitis, intracerebral abscess, or thrombosis of the large venous sinus. The pericranium is an important layer in the scalp, and split thickness skin grafts will be most successful if placed onto this layer.

All of these anatomical features have relation to the peculiar results of trauma, to the treatment of losses of the scalp and sometimes to the etiology of that loss. Therefore, compared to the skin, the scalp is a much more complicated and organized tissue which is not dependent for nourishment on underlying capillary loops and tissue fluid. Microscopic examination shows the majority of the hair follicles to rest in the subcutaneous fat just under the skin. It is suggested that in thinning the avulsed scalp down to a full thickness graft, these hair follicles are destroyed and do not produce hair in the newly grafted area even if the graft survives.

The mechanism of total avulsion of the scalp is as follows. When traction in force is applied to the scalp through the hair, the scalp first tents up off the skull. It then tears, usually over the eyebrow, and strips it from the skull. It may tear just inside the hair

line leaving a centimeter or so of hair-bearing scalp. The avulsion usually occurs in the loose aponeurotic layer leaving the pericranium, that is, the periosteum of the outer table of the skull. The pericranium derives its blood supply from the diploic circulation with vessels which penetrate the outer table. Occasionally the scalp is torn over the forehead anteriorly. Adjacent tissues are frequently torn off with the scalp so that it is common to find an associated loss of upper eyelids and parts or all of the ears. Rarely is any of the face below the eye or the neck below the hair line affected. In some instances, the sub-aponeurotic layer has a very firm attachment to the periosteum in which cases the periosteum will be removed leaving a portion of the calvarium bare. Rarely is the skull fractured.

The principles in the treatment of total avulsion of the scalp are simple but should be followed rather religiously. The temptation to replace an avulsed scalp in its original form is great. In recorded medical history there are many fascinating accounts of the treatment of scalp losses.^{1, 5, 8} Before skin grafting has been discovered, these wounds had to develop granulations over which epithelium could grow from the side. Where periosteum was lost over a large area, the outer table of the exposed skull often sequestered before granulations could grow in from the side. Therefore, the main problem confronting the surgeon in early times was that of encouraging the covering of the bone by granulations. Augustine Velloste¹ was the first to state that small perforations of the outer table should be made at the primary dressings of the wound, thus avoiding exfoliation of the bone.

The replacement of the avulsed scalp has been reported without success in over 100 cases.^{2, 3, 4, 7, 9} There is only one reported case of replacement of the avulsed scalp which has been successful.⁶ At review three months after the injury, a growth of soft hair was observed in the replaced scalp, but this hair did not have the appearance of being serviceable. A wig was still needed. Several instances in which the scalp had been trimmed down to a full thickness graft has led to takes but not to growth of hair.

The psychological reaction to an injury such as this to the family of the child was

more severe than that received by the child. It was necessary to point out to the mother early that while this was a very severe injury, it was one that could be handled well and that a wig or hair piece could be created that in appearance might even exceed the natural hair. The only disadvantage would be the expense of buying the hair piece. It was also pointed out to her that soon after the grafts were in condition, it was best that the child become accustomed to going around without a covering. This was difficult for her to understand, but later on proved to be very valuable. This seems to be true in all severe injuries. If the parents and the people surrounding the injured make their first impression when the injury is at its worst, then any improvement will be noted, and they will be grateful. Often this final result will not be what they may have expected; in fact, most of the time it will be far less than they have expected. So, in general, it is best to have the family aware of the appearance of these serious wounds and note their progress. The child in our case, of course, was very frightened for a number of days; she would cry out at night, not from pain, but from fright. She was soon, however, running around the hospital without anything on her head and adjusted to it very well. Fortunately, one cannot wear a wig for a period of some several months until the grafts are solid enough so that they will not be disturbed. During this time, the child became accustomed to having her head bare and to other people seeing her as she was. When she got her wig, she was not only glad to have it, but the children in her school were almost as pleased as she was to see her with hair in place again.

If the pericranium is lost, the bare calvarium cannot be covered with a split thickness graft. In this case, granulations must be encouraged to cover the bare skull by removing part or all of the outer table. Such a case has been followed by the author¹⁰ for twelve years in which a split thickness graft was applied to the inner table of the skull and dura. The defect amounting to one-half of the calvarium resulted from an electric burn. This case has demonstrated some of the complications that occur with a split thickness skin graft over a solid area like the skull. Ulcerations have developed from time to time when

a spicule of bone would work out from the remaining portion of the skull. Of course, this skin is quite easily traumatized, and there tends to be a contracture of the graft as the years go on, making this trauma cause greater damage. However, in general, a split thickness skin graft stands up well on the bone and even on the dura. (Fig. 5) Another electric burn¹⁰ shows a different way of handling partial losses of the scalp and skull by means of a pedicle graft. The loss of scalp and skull in this case was in the occipital area. The pedicle flap (Fig. 6) was shifted back to cover the occipital region in which the uncovered bone was found and in which the dura was exposed in one area. A split thickness skin graft (Fig. 7) was used to cover the pericranium exposed by shifting the flap backward into position. This amounted to about forty-five square inches. Both grafts have been very serviceable over a period of several years.



Figure 5

Photograph showing split thickness graft covering outer table of skull and dura twelve years after electrical burn. The depressed area shows the covered dura. Also note the thick lens of the glasses used after bilateral cataract extraction — another result of this injury.

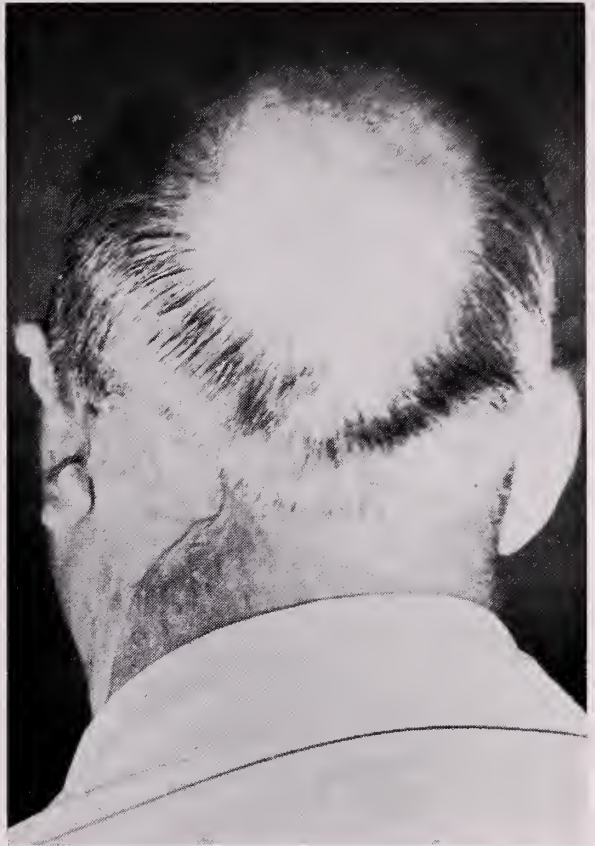


Figure 6

Photograph of pedicle graft of scalp shifted to cover defect of scalp and skull in the occipital region. This also secondary to electrical burn.

Many severe injuries about the face result from violent accidents in which other portions of the body are injured. Thus, it is necessary to survey the general condition of the patient before proceeding with too extensive treatment. A case in point is that of a young man who was in violent contact with a tree while riding as a passenger in an automobile at high speed. He received a fracture of the maxilla, the mandible, the zygoma, (Fig. 8) compound fracture of the right forearm, of the left ankle and of the right femur. He was in severe shock and lost much blood, especially from the lesions of the mouth. It was necessary to perform a tracheotomy because of the difficulty in maintaining an airway. All treatment had to be minimal at the time of injury other than the treatment of shock. He was given nine units of blood over a period of the first three days in the hospital. All definitive treatment other than splinting was delayed for one week. At this time, arch bar wires were fixed to the teeth. The maxilla was held in place by fixing the

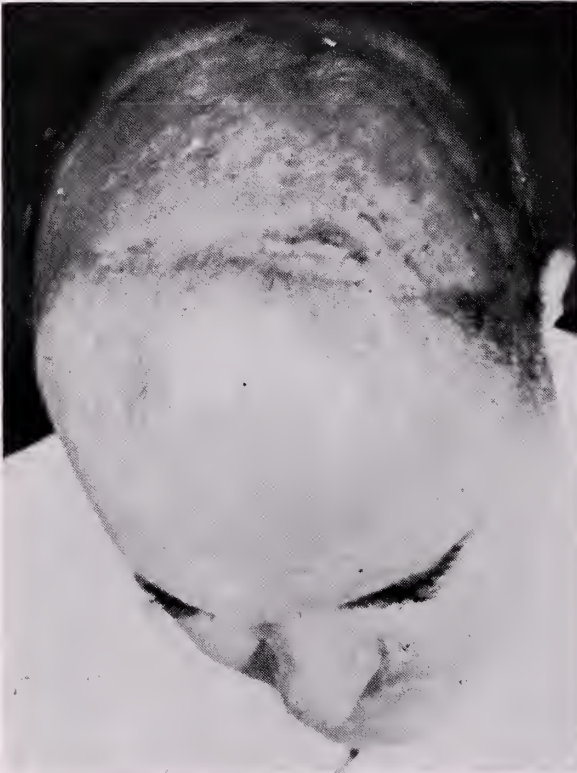


Figure 7

Photograph of split thickness skin graft covering pericranium from which pedicle graft in Figure 5 has been shifted.



Figure 8

Photograph of x-ray showing fractures of mandible and maxilla.

arch bar wires to a head cast by means of wires brought out through the cheeks near the zygoma. The mandible was fixed to the maxilla by rubber bands hooking the two arch bar wires together. However, the posterior fragment of the left mandible, which was displaced backward and outward at the angle posterior to the last molar tooth, had to be fixed by means of a threaded Kirschner wire. (Fig. 9) This method of fixation is also very valuable in treating fractures of the mandible where the maxilla is edentulous. The x-rays show fixation of bilateral fracture of the mandible through mental foramen with two threaded Kirschner wires. (Fig. 10, 11, 12)

The treatment of soft tissue wounds of the face certainly is important. Careful planning, minimal surgical debridement and lots of soap and water, the use of fine instruments and fine suture will, in most cases, give good results. By careful planning is meant picking out known areas to work from in putting

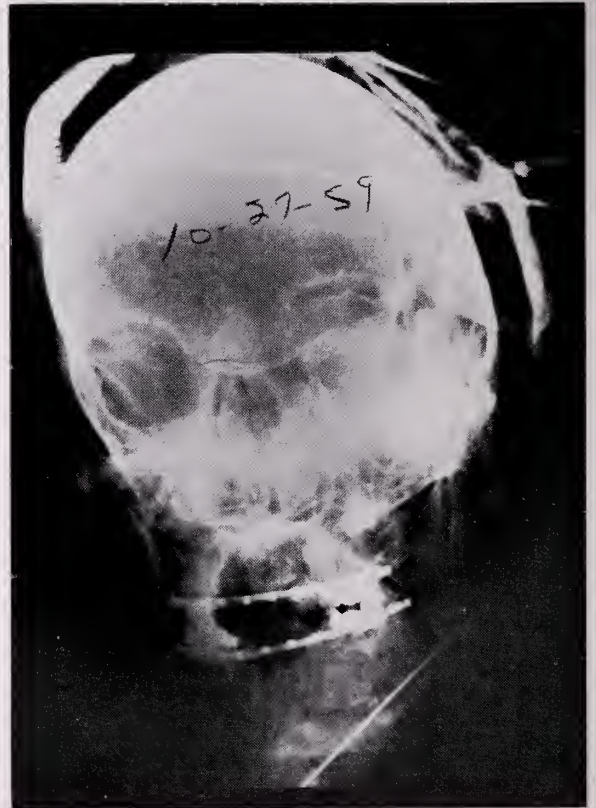


Figure 9

Photograph of x-ray showing reduction and fixation of fractured maxilla and mandible using hooked arch bar wires attached to head cast by wires coming out near zygoma. The posterior fragment of the mandible is fixed with threaded Kirschner wire.

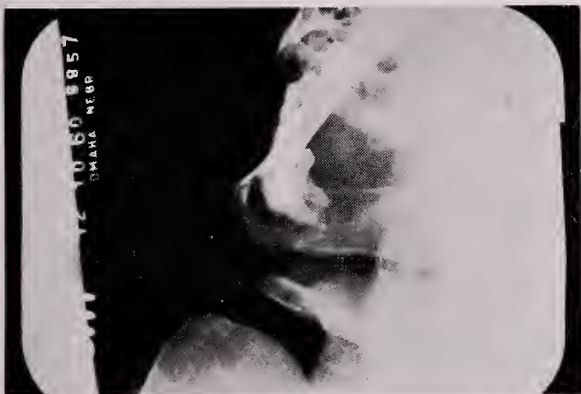


Figure 10

Photograph of x-ray showing bilateral fracture of mandible through mental foramen region in man with edentulous maxilla.



Figure 11

Photograph of x-ray showing fixation of fracture shown in Figure 10; held with two threaded Kirschner wires.

together some of the puzzles that result from severe soft tissue injuries. Trap door injuries are always difficult to handle.

Special areas of tissue loss are of importance. The use of a composite graft from the ear to replace small to moderate losses of the ala of the nose is invaluable in giving excellent result and minimal morbidity. This is a free graft consisting of two layers of skin, one of cartilage. (Fig. 13 & 14)

In conclusion, after examining all the evidence for and against the replacement of the totally avulsed scalp, one must say that it is not only useless, but dangerous. There is no known method today of grafting an avulsed scalp and obtaining a satisfactory growth of hair. It is best to apply split thickness skin grafts where the pericranium has been preserved and obtain a good wig. If the pericranium is lost, two methods of handling this have been described.



Figure 12

Photograph of x-ray showing AP view of fixation of fracture shown in Figure 10.



Figure 13

Photograph showing defect of ala of nose, secondary to avulsion injury.

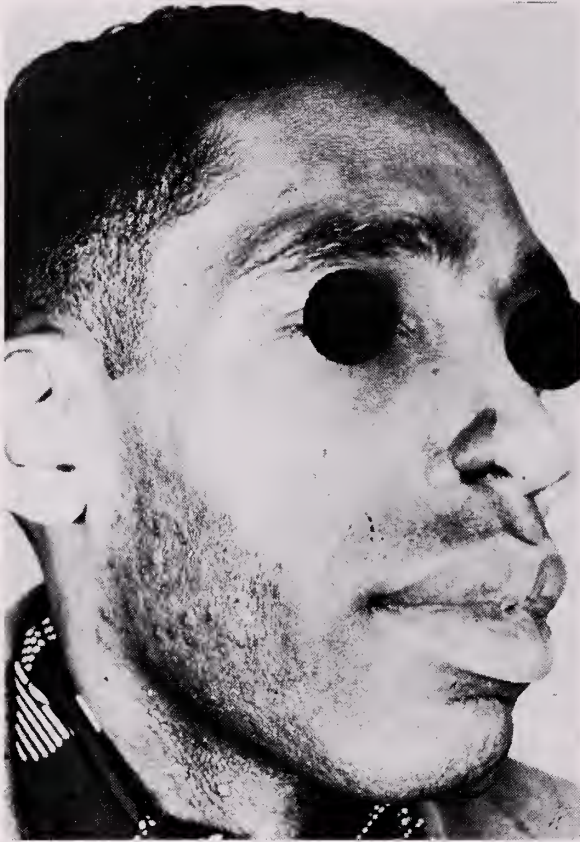


Figure 14

Photograph showing closure of defect demonstrated in Figure 13 by composite graft taken from visible ear. (Composite graft consists of two layers of skin and one layer of cartilage.)

In severe injuries about the face complicated by other injuries, always give primary consideration to the general condition of the patient. The treatment of shock is first. A tracheotomy may be an important part of this treatment where there has been severe injury to the mandible and maxilla.

The threaded Kirschner wire is a valuable method of fixation in certain mandibular fractures, especially where the upper jaw is endentulous.

Finally, the use of soap and water, minimal surgical debridement, fine instruments, fine sutures and gentle handling of tissue will give excellent results in soft tissue wounds of the face. The composite graft is invaluable in the replacement of small to moderate alar losses.

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ANOTHER ENDOBRONCHIAL FOREIGN BODY, A PLASTIC TOY TOOTH—

(Continued from Page 172)

toy or its container and limitation of the toy to older children, who it is hoped, would exhibit better judgment, should have been advocated with these toys. Toys of the sort reported here are being sold in some stores in the middle-western part of the United States. The manufacturer reports that the dental sets were made in the past but they are no longer in production. However, some of the sets undoubtedly are still stocked and may appear on toy counters. If these are placed in the hands of young children, without attentive parental supervision, it is entirely possible that the toy teeth may again appear as inhaled or ingested foreign bodies. The type of endobronchial foreign body described here has not been reported elsewhere as yet but it may easily occur again. The endocopist who does foreign body work must be prepared for a similar instance.

**THE PRECEPTORSHIP PROGRAM
AT THE SOUTH DAKOTA STATE
UNIVERSITY SCHOOL OF MEDICINE**
Warren L. Jones, M.D., Sioux Falls; T. H.
Sattler, M.D., Yankton, and Dean W. L. Hard,
Ph.D., School of Medical Sciences, Vermillion,
South Dakota.

Editorial Comment:

The preceptorship type of medical educational program has occasioned marked interest on the part of an ever-increasing number of medical schools in recent years. The following report presumes to outline the objectives and general plan of operation for the program at the State University of South Dakota Medical School and is published as a matter of general information for the physician population.

In an effort to achieve uniformity in method and conduct of the preceptorship program, the following outline is presented. This is not formulated with the intention of compelling all parties involved to conform to a rigid pattern, but rather as a guide to the preceptor and to the preceptee explaining the objectives of the program, with a description of several requirements which are necessary to satisfy the primary purpose of the program — medical education.

DEFINITION OF CONSTITUENTS:

The Dean of the School of Medicine will appoint two or more members from his clinical faculty to form with him a **Preceptorship Committee**, which will supervise the preceptorship program. This committee will organize the preceptors, assign the students to the preceptors, evaluate each "preceptorship unit," grade the students, and will strive toward maintaining harmony in this medical program. In addition, members of this committee will visit personally each "preceptorship unit" while functioning, at least every third year.

The term **Preceptorship Unit** includes the practicing physician preceptor, the medical student preceptee, and their relationship. Ideally, the latter includes the exposure of the interested, enthusiastic student to the instructive, expemplary attitude of the preceptor in action in his professional and social environment. It is the unit which is actually responsible for the success of the program. This preceptorship unit and the preceptorship committee will share responsibility for any failures.

The **Preceptor** will be a physician who is in the active practice of medicine, in the State

of South Dakota, preferably a generalist in a small community, and who is willing to give of his time and energy for the instruction and guidance of students of medicine. In some instances, the preceptor may be a member of a sizable group or clinic, in which case one physician will be responsible for the student, as is the preceptor in a singular practice. In a few instances, a student will be assigned to practices shared by two physicians, each of whom may be designated as preceptors. Although the student may be assigned to another member of the group temporarily, the preceptor will be responsible nevertheless for the instruction given to his student. Each preceptor will exercise his own judgment and employ his own method of instruction, within the latitude of this composition. It is recognized that teaching methods are as individualized as are the different personalities.

On completing the second year of his academic study of medicine, the student, or **Preceptee**, will be assigned to his preceptor. This will be his first exposure to the clinical side of medicine. His course in Physical Diagnosis during the sophomore year will have acquainted him with the performance and recording of a complete history and physical examination, but he will have no background for differential diagnosis. He will not be well accustomed to the atmosphere of the physician's office, of the hospital, and may still feel awkward in the presence of a patient.

BASIC OUTLINE OF FUNCTION:

At least one month before the start of the preceptorship program each year, the preceptor will be contacted regarding his desire to participate in the program, and for announcement of dates for the program. Upon acknowledgment of his desire to participate, the preceptor will receive the name and a brief background study pertaining to his assigned preceptee, so that any necessary preparations can be made. The designated preceptors will receive official appointment to

the volunteer clinical staff, with the title of "Preceptor," by recommendation of the Dean to the President and Regents of Education.

The student will provide for his own travel to and from the location of his assignment. The preceptor will provide maintenance for the student. This includes room, board, and laundry for the period of the preceptorship. The student will reside in the home of his preceptor, or in a room, hospital, or hotel nearby, depending upon the circumstances. In any event he will be sufficiently near his preceptor to be always available, **DAY AND NIGHT**.

The student will accompany his preceptor on hospital rounds, and will perform complete history and physical examination upon those patients to whom he is assigned. Cases examined by the preceptee will be selected for their teaching value and physical findings, and will be carefully observed daily by him so that he may follow the course of illness. He will be required to perform routine complete blood counts and urinalyses on those cases he reports (four), and is encouraged to perfect his laboratory method by comparing his results with the office or hospital technician. The student will accompany his preceptor on house calls, **DAY AND NIGHT**, and on other medical errands at the discretion of the preceptor. He will observe the function of the preceptor's office, will study the methods of appointment, the system of office recording and patient record file. He will be introduced to the business side of medical practice, and shown methods of patient charging and the general economic principles in the physician's office. The student will take an active part in the office routine, being with the preceptor as much of the time as is possible. He will observe the patients assigned him, and often will perform a complete history and physical examination during the office hours. He will thus be exposed to the atmosphere, tempo, function and conduct of the practice of medicine outside the confines of the "ivory towers" of the teaching institution.

Whenever possible the preceptor is encouraged to invite the student to accompany him to civic functions, and various community affairs, and to hospital and District medical meetings. It is important that the student gain from these experiences the full perspective of the busy medical practitioner, in his

professional, family and community life. It is anticipated that the preceptor will impress upon his student the importance and necessity of continued study and postgraduate training, in order to keep abreast of new developments in his dynamic and changing profession.

On completing each week of the preceptorship program, the student will be required to submit to the Dean's Office a work-sheet and one recorded complete history and physical examination. The latter will be recorded in the same fashion as the student has been instructed in his course in Physical Diagnosis. It is hoped that the preceptor will read and grade this "work-up" before it is mailed, and discuss with the student the necessary corrections. The grading will be on the following basis: Excellent, satisfactory, or unsatisfactory.

The weekly work-sheet will contain data pertaining especially to the number and variety (types) of cases seen. Also the student should report the approximate number of hours spent with his preceptor, the number of hours spent in the operating room, and the number and name of all laboratory tests performed. It is hoped that the student will not spend a disproportionate amount of time in the operating room. He will be encouraged to comment on specific experiences and general aspects of his preceptorship on his work-sheet.

Increased supervised responsibility may be delegated to the student by the preceptor if it is demonstrated by the student that he has the necessary aptitude. This will occur only if the student proves himself dependable and capable in the estimation of his preceptor. At no time, however, will the student be allowed to pursue any professional duty without the direct supervision of his preceptor.

Although the preceptee will often be, and should be, accepted by his preceptor as a junior colleague, and may be referred to as "doctor," he will be known to his patients, and to all with whom he associates, as a "medical student," a "student physician," or a "student doctor." No attempt will be made to mislead anyone regarding the true teaching nature of this program. People generally will accept these explanations and titles, but may exercise the right to decline examination by the student.

All information pertaining to patients will be kept in **absolute confidence**, as outlined in the Code of Medical Ethics. Since this will be the student's first contact with clinical practice, and since these factors are often not stressed in medical school teaching, it will be well for the preceptor to define "preferred information" for the student, and to review with him other important points of medical ethics by which the practicing physician must conduct himself.

The student will be forbidden to accept remuneration for any service rendered and it will be improper for him to accept any gifts. This program is a part of his medical education and the student should be sufficiently recompensed by the generosity in time and interest given to him during the preceptorship.

Upon completion of the training period, the preceptor will be asked to complete a student evaluation form, which will inquire regarding the following attributes of the preceptee: 1. His fund of information, 2. performance, 3. character, and 4. his potential as a physician. In addition, the preceptor will be encouraged to make any further comments regarding the student and the program as a whole. On the basis of this report, the evaluation of the four complete physical examination reports, and the weekly work-sheets, the final grade for the student will be computed by the preceptorship committee. A conference of the student with his original faculty advisor will be held at the conclusion of the program to evaluate his experiences and reactions.

Every second or third year a meeting of all preceptors and the preceptorship committee will be arranged by the Dean of the School of Medicine, for the purpose of hearing any criticism and discussion of the program, and to promote further improvement in the program. These meetings will usually be held in conjunction with the South Dakota State Medical Association meetings, as arrangements permit.

OBJECTIVES:

The purpose of the preceptorship program is not to teach the student the general practice of medicine, or the technic of operative therapy. It is designed to show him directly the environment of the practice of medicine, in an informative and controlled arrangement;

to expose him to the practicing physician's way of life. The success of the program cannot be measured in terms of the number of deliveries or operations seen, the number of lacerations repaired, or the like, but in the opportunity given the preceptee to see medical practice in action, away from the teaching center. On completion of this program the student should be motivated by a new perspective toward his own career in medicine. Many of the students will be inspired to pursue the general practice of medicine in a community in South Dakota which is in need of a physician. Other students may discover that they might prefer specialty training, medical education, research, medical administrative work, or some other field of medicine. In other words, this experience should help decidedly to guide most students toward an educational objective.

Following completion of the preceptorship program, the student should return to his medical studies in the classroom and laboratory with enhanced enthusiasm. He will view the practicing physician with greater respect and understanding, and should have greater appreciation of the difficulties and challenges which confront the busy practitioner in a midwestern community. The student will probably view his patient more as a "whole" individual and as a member of a family and community. A real compassion and concern for the patient should develop. The preceptee should have greater self-confidence and poise in the presence of a patient. In short, the student will be introduced to the **ART** of medical practice.

The volume of scientific information which the student of today must learn is many times greater than that of a decade ago. It is virtually impossible for the student, who is not making constant use of it, to grasp and retain all this information for any appreciable time. But with the sense of application and organization of thought derived from the preceptorship program, perhaps this can be more easily accomplished.

It is often with surprise that the preceptor will recognize that he also benefits from this venture. The inquisitive, thought-provoking student will stimulate the mind of a conscientious teacher. As both members of the preceptorship unit are sufficiently enthused by this program, only then will the full potential of

(Continued on Page 188)

MEDICAL LIBRARY BOOKSHELF



The guest speaker at the Medical School Awards Dinner held at Julian Hall March 25th was Dr. Chauncey D. Leake, now Assistant Dean and Professor of Pharmacology at Ohio State University. Dr. Leake was born in Elizabeth, New Jersey, in 1896, and received his Ph.D. degree from the University of Wisconsin in 1923. He has been the recipient of numerous awards and honors and has contributed to many medical and scientific periodicals. Dr. Leake, after visiting our Medical Library, left an autographed copy of a reprint of an article which he wrote for the **Systems of Units** published by the American Association for the Advancement of Science in 1959, entitled "Standard Measurements and Nursery Rhymes." He also left a note stating that he gave the reprint "in appreciation of a fine collection," meaning our Medical Library Collection. Dr. Leake's remarks at the banquet were based on this article. His interest in measurements was aroused by a study of the Hearst Medical Papyrus, which document is in the San Francisco museum of the University of California. It was given to Dr. Reisner, who directed an important Egyptian expedition organized by the University of California, by a native worker who was grateful

for the kindness extended to him. The laborer stated that the 17 sheets of brown, wrinkled paper covered with red and black hieratic writing had been in his family for some time and had been found in a broken pot in an ancient burial mound. The Papyrus is a practicing physician's formulary, probably compiled by a scribe at one of the Health Temples in Ancient Egypt, from one of the authoritative texts. Of 260 prescriptions 80 percent of those recommended for administration by mouth are quantitated. Only 35 percent applied to the skin are quantitated. Dr. Leake did research in the history and philosophy of measurement to find out what kind of system the old Egyptians used for measuring drugs. This led to some interesting discoveries of measurement in various countries. In England the official yard was based on the arm length of whatever monarch was ruling, which made for variations of several inches until Queen Elizabeth the 1st was finally agreed upon for the official yard. King Charles the 1st put a tax on the jackpot which was used by the poor people to purchase small amounts of food. Because they couldn't protest they resorted to making up nursery rhymes such as Jack and Jill where reference

is made to 3 common volume measurements one of which, the jackpot, lost its value as assured by the crown, and the result was general depreciation of standards. Jackpot survives today as a gambling term usually implying 2 handfuls.

Standardization finally resulted so that today we have the metric system, in our country and the National Bureau of Standards but with England still clinging to their own system. In the matter of drug standardization international agreements have been reached, aided by the League of Nations. When agreement could not be made on the standardization of insulin because 3 manufacturers of drugs wanted their product to be used, it was decided to mix all 3 samples together in equal proportions and then agree on this mixture comprising the international standard for insulin.

Dr. Leake, in speaking about the History of Medicine and Hippocrates, in particular mentioned a book by Penfield entitled the **Torch**, Little-Brown, 1960. This book was recently added to our Medical Library collection and David Judge, from Milbank, S. Dak., one of our sophomore medical students, agreed to review it for this column. The following is his review of this book:

The **Torch**, a historical novel centered on the life of that greatest of physicians, Hippocrates, is a must on the reading list of anyone interested in the art of medicine and its background. Wilder Penfield, a world renowned neuro-surgeon, authored the book; his second novel. In doing so he has chosen what is probably the most poignant chapter in the history of medicine.

Although the subject of the book is ostensibly the historical Hippocrates, the underlying theme treats a much deeper subject; the nature of physicians of all times. In so doing Dr. Penfield brings to us a living, believable Hippocrates; physician; Greek citizen of Cos; human being. 432 B.C., the Golden Age of Greece, springs to life again as you are introduced to the great physician; go on rounds with him; sit in on those famous clinical pathological conferences, and even meet him socially.

The handling of this theme is done with ability and great sensitivity. Only a physician could handle the subject and give it the understanding demanded. Dr. Penfield aptly

emphasizes again through this media the changelessness of medicine with its physician disciples. Mute testimony to this fact is the Oath of Hippocrates which even we today take as our guide.

The book is an excellent piece of historical research combined with the imagination that history needs to come to life. An added attraction is the addendum of scholarly notes offering much information to those especially attracted to the actual setting in which Hippocrates lived. As English prose it has some drawbacks. The introductions of new characters and the transitions from scene to scene are often awkward. However, this does not detract to any extent from the readability of the work.

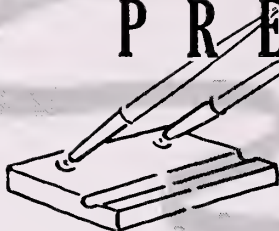
A second book reviewed by Arvid I. Ronning from Bainville, Montana, a sophomore medical student, and graduate student in Anatomy is **The Interns**, by Richard Frede, Random House, 1960. His review follows:

The Interns is a novel about the lives and loves of a group of interns in New North Hospital struggling to survive in the mysterious world of medicine, each working for a goal that throughout the book remains vague and obscure. With work shifts of thirty-six hours at a stretch on the wards, in the operating room, and in the delivery room and only 12 hours off between such shifts, sleep becomes one of the main concerns. However, sleep must compete strongly with another important matter — sex, which Dr. Joe Parelli even manages to handle with a nurse named Cynthia in a humorous and passionate way on an O.B. table. On a salary of only \$40.00 a month Dr. (practicing provisionally) J. P. Otis finds it advantageous to have a girl who is as generous with her money as she is with her favors. Then there are parties where for want of privacy a couple can only "continue and supplement their relationship" beneath a pile of coats on a bed. Another fellow, Jim Aptshult, who had married a beauty queen to prove he could do it, now finds himself wanting a divorce as well as intern Alicia Liu, who does not want him.

Of course, as we've all heard in medicine, politics is important and of this we see several examples. One intern, knowing how important it is to impress a certain surgeon after observing him perform an operation, finds himself asking the doctor why he used a

(Continued on Page 188)

P R E S I D E N T ' S P A G E



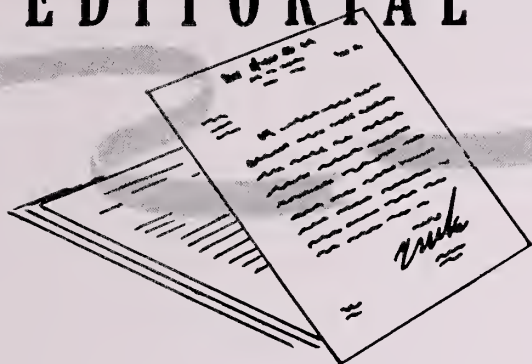
In an earlier issue of the **Journal** I spoke to you about the need to encourage students of high caliber to choose medicine as a career. Since then I have attended the annual dinner at our Medical School in Vermillion. Several members from southeastern South Dakota also attended, and I'm sure they will agree with me that it is heartwarming to see and visit with so many fine young men and women who will be physicians in the next few years. They are active members of the Student American Medical Association, and their wives comprise an active chapter of the Woman's Auxiliary to the Student American Medical Association. I hope all of you will be alert to your opportunities to give a helping hand and financial assistance to our future doctors.

The year of my presidency is nearly over. It has been enjoyable and rewarding, and has deepened my conviction that we have a fine organization with great possibilities. A little more time and effort on the part of each one of us and continued cooperation can bring us some big results.

Thank you for this opportunity you've given me. Back in the ranks I will join with you to give support to our new president, Doctor McDonald.

Very sincerely yours,
C. Rodney Stoltz, M.D.
President

EDITORIAL PAGE



THE CORPORATE PRACTICE OF MEDICINE

South Dakota and Arkansas, at the recent legislative sessions, enacted laws which okay the corporate practice of medicine. Other states, including Indiana, Minnesota, Connecticut and Iowa, have similar bills in their legislative hoppers pending at the time of this writing. Connecticut has introduced a bill which permits corporate practice of law, accounting and all other professions.

This means that member doctors of the medical corporation will be able to invest up to 15% of their corporate salaries in qualified retirement plans. Because the corporation can deduct these amounts, the investment fund is entirely tax free. The money earned by the retirement plan will also grow without tax erosion. Eventually, when the doctors withdraw their pyramided funds, they will have to pay a tax, that of capital gain with a maximum tax of 25%. Other advantages include sick-pay plans, medical reimbursement plans, and death benefit exclusions up to \$5,000. Group life insurance can also be deducted as cost and under certain circumstances, the insurance per doctor can be as high as \$150,000.

What the long range impact will be on the medical profession cannot be stated at the present time, but certainly it leaves little need for the Keogh Bill or Kintner-type Association for those doctors in groups. However, the soloist, whether he be a general practitioner or specialist, is definitely in need of a similar equity.

Robert E. Van Demark, M.D.

Editor's Note: The following is a poetic tribute written by Nelle Elward in memory of her husband, Dr. L. R. Elward, who graduated from the College of Physicians in Chicago in 1909 and passed away in 1960.

THE COUNTRY DOCTOR

The "Old Country Doctor"
As they are called,
Are rapidly departing
From this earthly hall.
Their service to mankind
Ailing and sore,
Will build a fine Shrine
Of memories galore.
There's one I know well,
Many stories could tell
Of the struggles and strife
Racing death to save life.
Through blizzards and storms
Towed by horses forlorn,

Midnite races with the stork,
 Was not modern day sport.
 He was counselor and friend,
 Always ready to defend
 The rights of mankind
 Whether physical or mind.
 He served by his presence,
 His wit and with pills,
 Ever willing to serve them
 Tho some forgot the bill.
 Half a century he served,
 From his duty ne'er swerved.
 On Christmas Day of 1960
 All life service ended quickly.
 His call came at noon,
 It seemed all too soon,
 But God said: "Well Done!
 Your Crown you have won!"
 As a result of a constant flash
 On the memory of a devoted wife,
 After 64 years of togetherness,
 Evolves this little poem of reverence.

—Nelle Elward

MEDICAL LIBRARY BOOKSHELF—

(Continued from Page 185)

transverse incision instead of a longitudinal one in a bursitis drainage, and winds up getting a poke in the jaw. In another instance several of the fellows desired to obtain a position as a resident under a Dr. Harvey Bonny, a psychiatrist, and knowing the importance of pulling strings, they begin planning dates with Nurse Flynn because she knows Dr. Bonny personally.

For the most part there seems to be little character development so most any name could fit the role played by each intern. In the last scene in the book the author tries to bring out the idea that there has been some change and growth in these interns because of the tribulations they have endured, but the outcomes presented are not predicted by the way the author has presented the characters previously. If the life of an intern is as portrayed, only an intern can say, but in many ways the book seems to be an attempt to be an expose of the fascinating, but **forbidden** world of medicine. I am sure several medical students would question the value of taking time to read the entire book — but it would seem worthwhile at least to read portions of it in order to add to one's impression of what medicine is like.

The author, Richard Frede attended Birch Walter School in New York and later graduated from Yale; he has worked for **Sports Illustrated** and **The Interns** is the second of

his two novels. He is not a physician and therefore, the information and inspiration for this book are all second hand; nevertheless, one must admit that he is a keen observer.

Mrs. Esther Howard

Medical Librarian

THE PRECEPTORSHIP PROGRAM AT USD—

(Continued from Page 183)

the program be realized.

Therefore, the advantages of a well organized and functioning preceptorship program for all of its component members, students and preceptors alike, would seem to justify its existence and intensify its worth.

ADDENDUM

LEGAL PRECAUTIONS:

On composing this outline, the legal implications have been thoughtfully considered. It is believed that careful adherence to the conduct and function of this program as outlined will preclude any matters of litigation.

Nevertheless, it should be realized by all preceptors that their professional insurance coverage may not be effective should the preceptee (student) be involved in a medical-legal suit; and, in certain instances, the preceptor may be liable for his preceptee in civil litigation. In any event, the details of the action have to be evaluated on the basis of carelessness or negligence on the part of the practicing physician, the student, or both. It should be emphasized that inadequate supervision on the part of the preceptor, or irresponsibility on the part of the preceptee, or a combination of these offenses would be the greatest causes for concern. Let these thoughts provide a note of caution, and a consideration for prevention.

The Preceptorship Committee shares the responsibility of conduct and function of this Preceptorship Program in an organizational and academic capacity, as outlined. The Committee and Medical School shares responsibility regarding litigation only to the extent of reminding the preceptors and preceptees of their responsibilities to one another and to the laws of the State of South Dakota governing the practice of medicine.



ECONOMICS

Interprofessional Relationship*

C. J. McDonald, M.D., President-Elect
South Dakota State Medical Association

For many years, attempts have been made by various professional health groups, to create better liaison between their particular group and others. These attempts have failed frequently because most of the professional organizations in a State the size of South Dakota do not have full time help and cannot maintain continuity of liaison from year to year as officers change. Thus the problem has been magnified out of proportion to its real impact because new officers would step into the middle of a cooperative effort, and unless they were sold on the endeavor, it would fall flat, never to be revived.

At one time there was an active Interallied Council that brought all persons in the health professions together at gigantic periodic sessions. This got so big that at the time there was no convention area that could handle the meeting. At about the same time, World War II came along and after the war, there was no impetus to reinstate the organization.

Since the Medical Association set up its

executive office in 1946, we have seen a steady improvement in our relationships with other organizations. This is primarily true because, as the office became better known, people discovered a place to turn for authentic information on policies set by the Medical Association. It has been our experience that the people with whom we cooperate least, are the people who have never asked us for cooperation.

There is probably a need for better communications between people and groups interested in health and welfare of the general public. My appearance here today is based on the Medical Association's need to better our communications with this particular body.

In recent years there has been a tremendous increase in the number of people engaged in health and welfare activities. Your particular group constitutes one of those newer areas of endeavor. We recognize that there have been nursing homes for many years, but their promotion, management, and supervision has relatively recently come of age.

With the development of the new methods
(Continued on Page 190)

* Presented at the Annual Convention of the South Dakota Nursing Home Association March 16, 1961.



unsurpassed "general-purpose" steroid outstanding for "special-purpose" therapy

Aristocort®

in allergic respiratory disorders

Aristocort[®]

Triamcinolone LEDERLE

UNSURPASSED "GENERAL-PURPOSE" STEROID
OUTSTANDING FOR "SPECIAL-PURPOSE" THERAPY

ARISTOCORT Triamcinolone has long since proved its *unsurpassed efficacy and relative safety* in treating allergic respiratory disorders, including bronchial asthma. Clinical evidence has now shown that ARISTOCORT is also highly valuable for "special-problem" patients—asthmatic and others—who, because of certain complications, were hitherto considered poor candidates for corticosteroids.

for example:

PATIENTS WITH IMPENDING CARDIAC DECOMPENSATION

In contrast to most of its congeners, ARISTOCORT is not contraindicated when edema is present or when cardiac decompensation impends.¹

PATIENTS WITH EMOTIONAL AND NERVOUS DISORDERS

Triamcinolone did not produce psychic disturbances or insomnia.²

PATIENTS WHOSE APPETITES SHOULD NOT BE STIMULATED

Among patients treated with ARISTOCORT, there was less appetite stimulation, especially in those who had previously gained weight on long-term therapy with other steroids.³

PATIENTS WITH HYPERTENSION

There was no blood pressure increase in any patient treated for bronchial asthma, and in some, blood pressure fell. Of these, three had been hypertensive.⁴

References:

1. McGavack, T. H.; Kao, K. Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958.
2. McGavack, T. H.: *Nebraska M. J.* 44:377 (Aug.) 1959.
3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958.
4. Sherwood, H., and Cooke, R. A.: *J. Allergy* 28:97 (March) 1957.

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. In the treatment of allergic respiratory disorders, dosage should be individualized and kept at the lowest level needed to control symptoms. Dosage should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

Supplied: Scored tablets—1 mg. (yellow); 2 mg. (pink); 4 mg. (white); 16 mg. (white).
Also available—syrup, parenteral and various topical forms.

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative or write to Medical Advisory Department.



LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

of health care and the addition of so many people in the allied fields, a new interdependence has developed between them. The doctor no longer provides the medical care, owns and operates the hospital, supervises nurses, or provides many other services that he once did. His dependence on others in the field, and their even greater dependence on him changes the picture as we once used to see it. Today there are eight people in allied health fields for every doctor in practice.

It might be charged that we physicians have been slow to recognize our responsibilities in coordinating the activities of all these related groups, but it is my personal feeling that the profession is training its members to better accept those responsibilities. At the same time, individuals in the allied fields should not expect miracles from the medical profession unless they are also willing to extend their hands in a spirit of honest cooperation.

To implement the medical profession's side of the creation of better relations with allied health groups, the American Medical Association has recommended a number of guiding principles. These include, among others:

1. The physician has an obligation to obtain valid scientific information and capable services and to interpret and apply them effectively in the care of his patient.
2. Allied professional and technical personnel have an obligation to provide reliable scientific information and capable services.
3. The medical profession, at the local, state, and national level, offers to cooperate with other groups in the health professions to elevate standards of education and competence. In recognition of its obligation to promote the optimum health of all people, the medical profession believes that such cooperative, mutual assistance should be more fully activated among the health professions.
4. The medical profession and allied professional and technical groups should cooperatively seek appropriate definition of educational and training standards and interprofessional relations. Formal liaison to discuss matters of common concern should be established.
5. Mechanisms for effective voluntary regulation and discipline are essential for all

scientific, professional and technical groups concerned with health care in order to meet their inherent obligations. For these reasons and since such regulation is desired by groups who provide information and services to physicians and to patients under the direction of physicians, this procedure is actively supported by the medical profession.

The South Dakota State Medical Association has maintained a committee structure to provide the type of cooperation with other organizations recommended in the AMA's principles. Some of those committees are as follows: The Committee on Medical School Affairs, Medical Education, and Hospitals; Committee on Nursing Training; Committee on Workmen's Compensation; the Liaison Committee with the South Dakota Pharmaceutical Association; and the Committee for Improvement of Patient Care.

In our committee work, we have attempted to evaluate and assist new programs as they have arisen. We are particularly concerned now with the problems created by the extended years of our elder citizens, problems which we, as scientists and physicians helped bring about.

These problems consist not only of maintaining good health or the mere extension of life itself, but include socio-economic factors that may affect the individual more than the provision of good medical care. At the same time, these socio-economic factors have far-reaching effect on the quality and quantity of medical care he receives.

In the field of the elderly indigent in South Dakota, it is fair to say that the haphazard rules adopted from county to county have radically affected the care given. While it is agreed that no one shall be denied care because of inability to pay, the county authorities in many counties have so limited the care to be given that some indigent just do not have access to the care they need.

Our recent legislative session made an attempt to standardize the quantity of care available to these people by setting up a statewide program of medical care for Old Age Assistance recipients, utilizing state and federal funds. This new program which is scheduled to start in July is potentially loaded with administrative problems. None of these problems are insurmountable but their

solution will require extra care and caution on the part of all providers of health services.

It is the intention of the medical association, pending approval of State authorities, to set up review committees made up of M.D.'s in each major hospital, in large rural areas, and at the state level, who would check over-utilization, over-medication, quantity, quality, and cost of medical services in this program. These review committees could well serve in the same capacity as other programs of this nature are developed.

As yet, administrative details for the new program have not been developed. Representatives of the vendors of care will meet with Welfare authorities within the next ten days to start the wheels turning.

A second program considered by this past legislature would have matched State with Federal funds to provide a medical care program for aged persons not on Old Age Assistance, but who have marginal incomes. This is commonly known as M.A.A. meaning Medical Assistance to the Aged. The Medical Association supported this type of legislation, but the Legislature declined to embark on two new welfare programs at the same time, so they remanded this one to the Legislative Research Council for a two year study.

Still another program is the King bill recently introduced into Congress. While Representative King introduced it, it is actually the Kennedy Administration's bill. You probably know more about this than I do, but I would like to point out one inconsistency. In his special health message to Congress President Kennedy said, "There will be no supervision or control over the practice of medicine by any doctors or over the manner in which medical services are provided by any hospital." But the King bill says, "The need for the inpatient hospital or nursing home service in excess of 30 days would have to be reviewed by a hospital utilization committee or a nursing home utilization plan." If Federal funds pay for something the government is eventually going to have complete control

over it.

A warning about accreditation standards. Don't wind up in the mess that we doctors find ourselves with the Joint Commission on Accreditation of Hospitals which rates and accredits hospitals, tells them what they have to do to have interns, residents and the like and has confused the profession with a plethora of committees and staff-subdivisions along with endless reams of red tape. The rank and file of the Medical profession has no confidence in such an outfit and we find there is no way, as yet, that we can get rid of it. I hope the same thing doesn't happen to the Nursing Homes.

Getting down to brass tacks on the position of the South Dakota State Medical Association on matters which may be of interest to you as nursing home operators, we consider these things to be basic:

1. All patients in nursing homes are entitled to the same quality of medical care whether they have an ability to pay or not. It is our hope that the O.A.A. and M.A.A. programs, as they are implemented, may be an instrumentality in accomplishing this.
2. Nursing homes need closer medical supervision. This can be accomplished by close cooperation between the local nursing home operators and the local physicians. It is possible that a set of guides should be adopted by the South Dakota State Medical Association. If so, I will have the proper committee consider the possibility during my term as president of the Association, which starts in May.

In conclusion, let me say that the South Dakota State Medical Association stands ready to help you in whatever way it can and whenever it is asked. A letter to us here in Sioux Falls will reach us and if we can't answer your questions, we will try to direct you to someone who can.

UNITED STATES SAVINGS BOND

100

100

TREASURY DEPARTMENT

U. S. SAVINGS BONDS DIVISION

Sioux Falls, South Dakota

Dear Doctor:

As we all know, Doctors are traditionally so busy attending to the needs of patients and their families that they seldom have time to attend to their personal investments.

In this day of complex and constantly changing economic and social conditions, even the so-called financial experts who devote a lot of study to the field of investments are frequently puzzled and mistaken about things in the investment field. I believe we will all agree that there are very, very few investments that one can afford to "BUY AND FORGET." Stocks that were good last year may not be doing good this year. Certainly, one of the very few investments that one can "BUY AND FORGET" is United States Savings Bonds. They are registered in the owners' names and may be replaced if lost, stolen or destroyed. Also, the principal and interest are guaranteed by the United States Government.

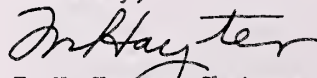
Savings Bonds now pay an attractive interest rate of 3 3/4 per cent, when held to maturity. In the case of Series E Bonds, you put in \$75.00 and get back \$100.00 at the end of 7 years and 9 months. The Treasury has a special H Bond if you need regular income which pays by Government check twice a year, yielding 3 3/4 per cent interest when held to maturity (10 years). These bonds are sold in minimum amounts of \$500.

IF YOU ARE PLANNING FOR RETIREMENT and you need regular income, you may wish to consider exchanging your Series E Savings Bonds (and Fs and Js) into H Bonds. Furthermore, if you exchange the bonds in place of redeeming them, you delay your tax on the interest earned on the bonds offered in the exchange until you redeem the H Bond, or it matures, whichever comes earlier. In most cases the tax at that time is greatly reduced because of lower income, and the double exemption for those older than 65.

Certainly, a portion of every Doctor's investments should be in United States Savings Bonds. The freedom from speculation and worry is worth a great deal to a busy Doctor. You may buy these bonds through your bank automatically each month by instructing your banker to deduct from your account a designated amount you wish to invest. This requires almost no time on your part.

In behalf of the South Dakota Savings Bonds Committee, we thank the South Dakota Medical Journal for its cooperation in placing this important message before you.

Sincerely,



T. N. Hayter, Chairman
South Dakota Savings Bonds Committee

NON-TRANSFERABLE

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Individual avarice may be hurting the entire profession. Let us remember we sell only service, and try to make that service come ahead of personal financial gain.

ABERDEEN DISTRICT HEARS SHIELDS

The Aberdeen District Medical Society met at the Sherman Hotel April 5th to hear Dr. Thomas W. Shields, Associate Professor of Surgery at Northwestern University, speak on "Diagnostic Procedures in Pulmonary Disease."

Dr. C. R. Stoltz, Association President, met with the group for his annual visitation.

AMGA TOURNAMENT

The 45th annual tournament of the American Medical Golf Association will be held at the Winged Foot Golf Club, Mamaroneck, N. Y., Monday, June 26, in conjunction with the annual meeting of the American Medical Association in New York City, June 25-30.

The club has two championship 18-hole golf courses and was the site of the 1958 U. S. Open Golf Tournament.

The annual banquet and presentation of the day's trophies will be held in the club house the same evening.

All members of the A.M.A. are eligible to participate. Golf clubs may be rented at the club house. Additional information on the tournament may be obtained from Dr. William G. McVay, Post-office Box 7007, Kansas City 13, Mo.

SEVENTH DISTRICT HEARS HARRIS

Dr. John Harris, professor of Ophthalmology at the University of Minnesota spoke on "Current Thoughts on Pathogenesis of Ocular Complications from Diabetes Mellitus" at the Seventh District Medical Society meeting in Sioux Falls April 4th.

Dr. C. R. Stoltz, association president, paid the district his official visitation.

MINNESOTA MEETING IS MAY 22-23-24

The Committee on Scientific Assembly of the Minnesota State Medical Association takes pleasure in announcing the general Scientific Program highlights of its 108th Annual Meeting, May 22, 23 and 24, in the St. Paul Municipal Auditorium.

Program highlights for Monday, May 22, include the Minnesota Academy of Pediatrics lecture given by Nathan J. Smith, M.D., Madison, Wisconsin; the Russell D. Carman Memorial Lecture, C. Allen Good, M.D., Rochester, Minnesota; and the Arthur H. Sanford Lecture in Clinical Pathology by Charles Heidelberger, Ph.D., Madison, Wisconsin.

Other lectures and discussions scheduled for Monday include the following participants: O. H. Wangenstein, M.D., University of Minnesota; C. J. Watson, M.D., University of Minnesota; John A. Anderson, M.D., University of Minnesota; John L. McKelvey, M.D., University of Minnesota; and Robert S. Flom, M.D., St. Paul.

On Tuesday, May 23, the opening event will feature a Review of Major Categories of Edema. Participants will include J. C. Broadbent, M.D., Rochester, Moderator; Cyrus C. Brown, Jr., M.D., Duluth; Jaime Paris, M.D., Rochester; J. A. Spittel, Jr., Rochester; and C. Paul Winchell, M.D., Minneapolis.

Other participants on Tuesday's program include R. G. Siekert, M.D., Rochester; Sidney A. Fox, M.D., New York City; H. A. Andersen, M.D., Rochester; J. J. Swendson, M.D., St. Paul; and Albert B. Hagedorn, M.D., Rochester.

On Wednesday, May 24, the Business Side of the Medical Profession will be highlighted. Participants on this program include Mr. William D. Huntington, Minnesota Manager and Mr. Millard K. Mills, General Manager of Professional Management Midwest in Minneapolis.

Climaxing the three-day meeting will be an address by the Honorable Elmer L. Andersen, Governor of Minnesota. For the closing event, Ernest B. Howard, M.D., Assistant Executive Vice President of the American Medical Association will participate in a discussion about "Doctors and Lawmakers."

NEWS NOTES

Dr. T. H. Sattler, Yankton, spoke to the Yankton Kiwanis Club on "Social and Legislative Trends Related to Medicine."

* * *

Dr. V. C. Marr, Estelline, spoke to the Estelline PTA on mental illness in March.

* * *

Dr. Buron Lindbloom, Pierre, attended a graduate seminar on trauma at the University of Minnesota recently.

* * *

Dr. J. J. Stransky, chairman of the Medical Association Council has been elected president of the Watertown Rotary Club.

* * *

Dr. P. G. Bunker, Aberdeen, presented two papers at the University of Chicago Medical School on March 11 to the staff and residents in Otolaryngology, Pediatrics and Anesthesiology. Residents in Otolaryngology from other medical schools in Chicago were guests at the meeting. The titles of the papers were: "Foreign Body Complications and Unusual Foreign Body Cases" and "Practical Points in Endoscopic Technique."

Dr. Lloyd S. Ralston, Aberdeen, was guest lecturer and clinician at the Veterans Administration Center, Fargo, North Dakota on March 17th.

* * *

H. Russell Brown, M.D. of Watertown, South Dakota, was the discussion leader on a panel at a regional conference on the Future of Voluntary Health Insurance and Prepayment Plans in Boston, Massachusetts, on March 24 and 25. As well as being a panel moderator on the discussion of Attitudes Toward and Improvements in Health Insurance and Prepayment Plans, Dr. Brown is a member of the Committee on Insurance and Prepayment Plans of the American Medical Association.

* * *

"The sophomore medical students, and wives, at the University were guests of Mr. and Mrs. Harold Larsen, Kreiser's, Inc., Sioux Falls, at a dinner-dance program at the Westward-Ho Country Club on Saturday evening, April 8."

* * *

A panel discussion dealing with the subject of "Medical Ethics" was sponsored at the medical school by the Student American Medical Association the evening of April 5th. Participants on the program were **Dr. Louis J. Pankow**, **Dr. Warren L. Jones**, **Dean W. L. Hard** and Professor **Clark Gunderson** of the Law School.




PHARMACEUTICAL

SECTION

HAROLD S. BAILEY, PH.D.
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PHARMACEUTICAL *Paper*

NUTRITION: THE QUEST FOR THE "IDEAL" DIET*

The supposition that an "ideal" diet can be scientifically calculated for any individual, in any species, at varying ages and stages of development has been dismissed as improbable by many scientists. Supporting their contention is the fact that although a voluminous mass of information has been accumulated through purely empirical studies on the actions and interactions of essential nutrients and an endless variety of diets tested and rated for their relative efficiencies, until now no fundamental law or unifying principle has been developed to scientifically assess precise protein needs. And protein is the basis of healthful growth and development.

Of extreme interest to nutritionists then is a new concept that may prove invaluable for scientifically tailoring diets to individuals — that may also have widespread applications in animal foods. It is a fundamental research break-through that discards the empiric approach to nutrition for the theoretical approach. In recent laboratory tests of the con-

cept, it has been demonstrated that the building blocks of life can be specifically provided to individuals by using man himself as a yardstick.

The growth of nutrition as an exacting science has been like a wave slowly forming in mid-ocean and gaining rapidly as it rolls toward shore. The school of skeptics at first was reluctant to accept the theory that disease could be caused by some nutritional or vitamin deficiency in the body. Germs of some sort had to attack the body, it was held. Until the 1930's, the bone-bending rickets crippled thousands of children, beri-beri caused countless deaths in Asia and our own nation's high incidence of pellagra was the needless result of delay before science re-charted its course. Now researchers are diligently pursuing a means to eliminate nutritional and related diseases.

Protein Nutrition

In reviewing leading theories of the day, it is now accepted that our health depends greatly on what we eat and what we don't eat. Our bodies must efficiently utilize certain essential nutrients such as proteins, car-

* Adapted for publication from a research seminar on nutrition held at the Pfizer Medical Research Laboratories, March 3, 1961, Editor.

bohydrates, vitamins and minerals for proper growth and for development of natural defenses to thwart disease. These nutrients must either be manufactured by the body or provided through diet. Lack of one essential nutrient can result in serious illness or even death.

Since 1900 much interest has focused on the role of proteins as a result of the classical work of Osborne and Mendel and that of their star pupil, Dr. W. C. Rose. Proteins, consisting of amino acids, are the class of chemical compounds from which living tissues are built.

Proteins are incredibly complex compounds, and the number of different kinds of proteins which are chemically possible is virtually unlimited. In the human body, there are at least 35 in the blood plasma alone, and probably hundreds of thousands of others in the other body fluids and tissues. Furthermore, they are constantly being broken down and reassembled.

This breakdown and regeneration of body proteins is made possible, despite their enormous complexity, by the fact that all proteins are assembled from the same comparatively simple set of building blocks, namely amino acids, of which there are approximately 22. There are two types of dietary amino acids: the essential or indispensable, and the non-essential or dispensable. The essential amino acid is one which the body cannot synthesize. Of the essential amino acids, there are eight or ten, depending upon the mammalian species. It is believed that there eight for man. They are: Tryptophan, lysine, methionine, threonine, phenylalanine, leucine, isoleucine and valine.

It should be noted that the nonessential amino acids are just as important as the essential ones, inasmuch as both are required for protein synthesis. Growth and nitrogen balance can be maintained by the essential amino acids alone, but when they are ingested some are transformed to nonessential amino acids before protein synthesis occurs. This is wasteful and probably time-consuming. The optimum amino acid composition exists when there is an adequate supply of both essential and nonessential amino acids.

Proper cellular growth depends on more than merely a supply of amino acids, however. They must be provided in sufficient

quantities and in proper proportions to each other. An oversupply of amino acids is wasted, places a strain upon the organs involved in excretion of the substances and could poison the system. A shortage leads to catabolism and negative nitrogen balance. This means more nitrogen is being lost by the body than is being supplied to it. If the ensuing tissue loss is not counteracted by protein repletion, death becomes inevitable.

The "Ideal" Diet

To date, no one has formulated the "ideal" diet, although researchers have been working toward this goal and have made some significant advances. Complicating their work are such findings as reported by Dr. Rose that humans have significantly different amino acid requirements for protein efficiency. Whereas man A may require 0.8 gram of lysine daily, man B may require 1 gram.

Progress has been made toward developing "the diet" which could serve as a standard in formulating the best diet for each individual. Among the trailblazers in the field are researchers at the National Institutes of Health in Bethesda, Md., who have done outstanding work under the leadership of such investigators as Dr. Milton Winitz of the National Cancer Institute and the late Dr. Jesse P. Greenstein. The NIH has been tediously by heretofore, the only workable method — trial and error — formulating diet after diet, feeding them to rats and evaluating the growth results in an endeavor to hit upon the correct — most efficient — combination of chemicals. The NIH began with Diet #1, preparing it from X ingredients and adding, subtracting and rearranging ingredients as it proceeded to formulate Diet #2 and Diet #3 and so on. These were compared with one another, eliminating the less efficient diet for the more efficient diet and then trying to improve upon it. Approximately a year ago the researchers developed Diet #116 which represented the most efficient chemically-defined diet formulated.

A New Conceptual Tool

This was the situation until only recently when a fundamental tool was brought into the laboratories of the NIH which Dr. Winitz expects will not only have a marked influence on future nutritional studies, but could revolutionize the dietary habits of the nation.

This new conceptual tool is the contribution of Dr. Charles I. Jarowski, director of Pharmaceutical Research and Development for Chas. Pfizer & Co., Inc. His concept simply stated is that for optimum protein efficiency the concentration of essential amino acids ingested daily by any species should correspond proportionately to the essential amino acid content of the fasting blood plasma in that species (the fasting blood plasma profile.)

To apply this to man it would be necessary to have him fast for 18 hours. Then a 25 ml. sample of his blood would be drawn and freed of red cells and proteins. The essential amino acid concentration would be determined by ion exchange chromatography. Then, according to Jarowski's formula—(the fasting blood plasma profile) — the correct ratio of essential amino acids for daily ingestion could be quickly determined through mathematical calculation. Deficiency states could be readily corrected through supplementation of indicated essential amino acids without any particular inconvenience to the individual. There would be no need for long, drawn out and expensive hit-or-miss experiments to determine the man's nutritional needs.

The Jarowski concept is the result of an interest stimulated in the researcher in college and maintained by his own dietary studies and review of those leading nutritionists during the past 15 years. Mr. Jarowski was first impressed by the physical impact of amino acids as recorded in experiments conducted by Dr. Rose at the University of Illinois in the early 1940's. Dr. Rose had a number of Dr. Jarowski's fraternity brothers on scientific diets and dramatically demonstrated the physical influence that could be achieved by altering amino acid supplies.

While his research career carried him into many other areas, Dr. Jarowski kept apace of the nutrition field and eventually compiled sufficient data to advance the theory that a correlation existed between the dietary intake and amino acids, their fasting blood plasma levels and protein efficiency. Formulating this theory, he accurately predicted the protein efficiency of many experimental diets and explained why these diets were efficient or inefficient in a fraction of the time it had taken the original investigators.

An NIH INVITATION

Last Summer, Dr. Jarowski was invited by a keenly interested KIH to confirm his theory in their laboratory. A study was designed to compare the growth rate of a group of rats which were fed Diet #116 with the growth rate of another group of rats subsisting on a comparable diet with the exception that the level of essential amino acids would be varied according to the concept proposed by Dr. Jarowski. The work of NIH was carried out by his Pfizer associate, Dr. A. V. Puccini.

Within a month, a diet (#154) had been developed by the Jarowski concept that bettered the growth rate achieved by Diet #116 by more than 15 per cent.

Although a better diet than #154 may be developed, the investigators agree it is the best to date and the first achieved on a truly sound theoretical basis. Much work still remains to be done which may lead to the development of even better diets. The fasting plasma profile theory is limited to providing the proper ratio of essential amino acids in a diet.

From the experiments conducted, it is apparent that the ratio of essential to nonessential amino acid nitrogen and the total amino acid nitrogen content of a diet must be determined experimentally. However, these experiments are believed to be relatively simple to conduct and few in number.

Future Implications

The future implications of Jarowski's work are far-reaching. If the facts continue to fit as further data is received, it could mean that an "ideal" diet could be scientifically formulated for every individual.

Through simple supplementation of amino acids, the individual could anticipate optimum healthful development. It could also mean elimination of many nutritional diseases, metabolic dysfunctions and infectious diseases.

The Jarowski concept considered in the light of several other studies encourages the belief that amino acids will become important weapons in the medical arsenal.

Dr. Rene J. Dubos and Dr. Russell W. Schaedler, both of The Rockefeller Institute, have demonstrated that the susceptibility of mice to certain bacterial infections can be influenced by the nutritional intake of pro-

teins and amino acids. They found that mice fortified with a diet containing 8 per cent casein and 12 per cent essential amino acids were more resistant to certain disease organisms than corresponding groups that were fed diets containing 20 per cent and 8 per cent casein, respectively, but no supplemental essential amino acids.

Dr. Melville Sahyun of Sahyun Laboratories, Santa Barbara, Calif., and Dr. George Emerson of the University of Texas Medical School have demonstrated how amino acids reduce the incidence of fat globules in the kidney and liver. In one experiment they fed rats casein and discovered that 21 per cent of the rat liver was fatty. Normal rat liver contains only 4 per cent fat. They added methionine to the diet and reduced liver fat to 15 per cent in rats. They then added both methionine and threonine and further decreased the fat content to 9 per cent. If their findings are applicable to human therapy, the way may be open to reduce the death toll from arteriosclerosis, various liver ailments and other diseases that flood the blood stream with fatty materials.

Here are some other possible applications that may result from Jarowski's work:

- 1) Supplements to enhance the biological value of cheap, but low grade abundant native proteins of underprivileged persons and nations.
- 2) Optimal special medical diets for persons recuperating from operations, burns or for patients of certain metabolic diseases could be formulated and, if necessary, fortified on a precise basis.
- 3) Optimum and specific diets for treatment of certain mental diseases linked to amino acid metabolism.
- 4) Diets or supplements specifically suited to pregnancy and the other physiological stresses as in athletics.
- 5) "Ideal" diets for animals to assure optimum growth and development.
- 6) Concentrated, ultra-compact and completely utilized protein diets could be produced for armies in the field, space flights, prolonged underwater cruises by submarines and men in arctic and tropical regions.
- 7) A diet or diets for weight control, based on a low grade suitably fortified protein, could be devised that would be far

superior to anything known today.


Dr. Jarowski's work has implications in many fields. If that saying, "we are what we eat," can be scientifically tailored to, "we must eat what we are," then deficiency diseases may become largely past history along with many of the degenerative ailments and cases of abnormal growth.

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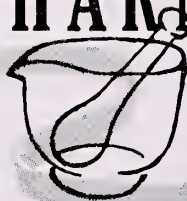
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PHARMACEUTICAL *Paper*



THE 25,000-MILE HAND*

Canada's healing hand now stretches around the world, through quietly spectacular lab achievements that trace back to courageous 17th Century nuns.

Swathed like mummies, the student volunteers lay isolated in dimly-lit soundproofed boxes as the hours ticked on. By the 48th hour, the last of the young Canadians had reached the limit of endurance. Their minds, deprived of sensory stimulation, were spinning fantastic hallucinations (one student saw eyeglasses march past, in animated-cartoon style).

But the experiment ended happily. It helped prove the theory that normal **mental** activity depends on stimulation of senses — still another contribution from the Montreal Neurological Institute where previously Wilder Penfield had demonstrated the mind's "tape-recording" memory process, one of the great physiological discoveries of the 20th Century.

At the University of Toronto's Connaught Medical Research Laboratories, Raymond C.

Parker and his group moved ahead in the complex formulating of a synthetic medium to provide all the growth-promoting and life-sustaining materials present in natural body substances.

Connaught's now-historic Solution 199 had made possible the large-scale preparation polio vaccine by the U. S.'s Jonas Salk. A later medium, Solution 858, has been found to promote in a week's time a 10-fold increase in the population of adult mouse tissues, a significant step in Canada's search for a medium to provide absolutely reproducible, chemically-defined conditions for the growth and study of cancer cells.

Westward, in Saskatchewan's Institute of Alcoholic Research, scientists made a noteworthy breakthrough in the treatment of confirmed alcoholics. The method requires only a **single** session, uses lysergic acid diethylamide plus psychiatric guidance, leaves patients with so admirable a degree of self-control they are able to have occasional "social" cocktails without fear of being unable to stop.

At the University of British Columbia, after 7 patient years, two Canadian bio-

* Reprinted from "The Laboratory" Volume 28, Number C4 through the courtesy of the Fischer Scientific Company, publisher, copyrighted 1960.

chemists succeeded in synthesizing — out of cheap, abundant materials — Co-enzyme A. This complex natural substance is the active part of many enzymes (those busy catalysts essential to nearly all chemical changes in cells, whether they take place in a virus or an elephant).

Desperately needed by today's medical researchers, Co-enzyme A will now be more readily available to scientists everywhere who are studying the basic processes of life. (Previously it was extracted from yeast, cost labs a cool \$17,000 an ounce.)

Accent on life

Today, Canadian **technology** is helping fulfill the promise held out by that vast land area with its incomparable mineral and forest resources.

But it is in the **health** sciences that Canada is exhibiting its most dramatic and characteristic genius, with results that affect the well-being of people everywhere along the world's 25,000-mile circumference.

This emphasis on the science of life traces back to Canada's early days, when intrepid French nuns built the nation's first hospital in the Quebec of the 1600s. Here poured an endless stream of sick and injured pioneers who had dreamed of building new lives in Canada. One in 7 who sailed from Europe died on the way, and hundreds were deathly sick on arrival.

Working in incredibly primitive conditions against infectious diseases that were a menace to their own lives, the nuns observed, studied, treated . . . and built a tradition.

After the nuns came Sir William Osler, whose humanitarianism revolutionized medical teaching around the world; Sir Frederick Banting and Charles H. Best, co-discoverers of insulin; J. B. Collip, third man on the insulin team, who also identified the hormone ACTH, laying the basis for today's treatment of arthritis . . .

. . . The Canadians who created the electron microscope, making it possible to "see" viruses; developed the differential centrifuge, universally used to break cells into their component parts; presented food-growers with

2, 4-D, the weed-killer; synthesized cyclopropane, most widely used gaseous anesthetic; found the cause of trenchmouth; pioneered the "deep-freeze" heart operation technique; developed the anti-coagulant heparin; gave the world cobalt-60 beam therapy units for the treatment of cancer.

A closer look at some made-in-Canada research projects is certainly in order.

New ways to the heart

In the laboratories of the Institute of Experimental Medicine and Surgery, Montreal's Hans Selye is engaged in the battle against heart disease that is currently carried on by 100 major laboratories throughout North America.

For 30 years Dr. Selye has pursued his fascination theory that **stress** is the origin of degenerative diseases. Called "probably one of the most important theories of disease since Pasteur's," it involves 3 phases: (1) the nervous and endocrine-gland systems are alerted to stress; (2) the glands put up a fight; (3) they give up the struggle and stress diseases — including heart, kidney, bloodvessel disorders — appear.

A major Selye project: chemical treatments to prevent the kind of heart damage ("heart infarcts") that accounts for half the annual toll from heart disease.

Rats receiving injections of certain chemical compounds develop large patch areas on the vital heart muscle from sudden stress (such as extreme cold, excessive treadmilling, etc.) and, without fail, die. However, rats treated exactly the same way, but also given injections of magnesium and potassium salts, **live** — apparently protected against stress. Clinicians are now testing the ability of these salts to protect human lives as well.

In the field of open heart surgery, Canadian researchers have made still another contribution: the widely-used "hypothermia" technique of W. G. Bigelow in which the patient is cooled 12° to 14° F below normal body temperature, cutting down blood circulation, permitting the heart to be stopped for much longer periods.

Now Dr. Bigelow with a research team at Toronto's Banting Institute is trying to discover the mechanism that enables groundhogs to hibernate throughout winter at a few degrees above the freezing point. The answer may provide a convenient method of

* In the 1950s, aluminum production zoomed 100%; steel, 70%; cement, 300%; petro-chemicals, 400%; primary plastics, 350%; chemical specialties, 130%; pharmaceuticals 120%. Uranium went up from a trickle to Canada's fourth largest export.

bringing patients to lower temperatures, permitting surgery now impossible even by the Bigelow technique.

From "deep-freeze" heart surgery to the freezing rain that attacks aircraft windshields is quite a jump, but as a National Research Council spokesman pointed out: "When one considers that dozens of lives and equipment worth over a million dollars may be involved in a flight, the value of improved visibility made possible by a rain repellent cannot be over-estimated."

So the Council, principal scientific arm of the Canadian government and employer of over 600 scientists and 18,000 other workers in applied biology, pure chemistry, applied physics, building research, and mechanical, radio and electrical engineering, put its Ottawa chemistry division to work.

After 7 years of intensive research, chemist D. F. Stedman formulated a wax-like substance that leaves the windshield dry, free from distortions or ripples, even in heavy rainstorms and in airspeeds over 600 mph. Normal de-icing, either with alcohol or heat, does not destroy the tenacious repellent's rain-shedding qualities.

The occupants of atomic submarines and space vehicles may well have reason to thank researchers at the University of Western Ontario whose unique "shock" treatment for major surgery cases can be used to provide daily exercise for men on prolonged under-sea voyages or in cramped space vehicles.

The treatment (which permits patients to "walk" even in their sleep) sends out 40 unfelt electric shocks a minute via electrodes placed near the end of the calf muscle. These shocks make the muscle contract and relax during an operation, keeping blood flowing through the legs, preventing clots in the extremities.

"C" as in cancer

Varied are the Canadian approaches to cancer, the cell-growth-gone-wild that has appeared in recorded history since 1500 B.C., manifests itself in over 300 different forms, claims some 2,000,000 lives a year.

In Saskatchewan, scientists are developing promising diagnostic tests for determining malignancy of growths in the large intestine and stomach. They found that deoxyribonucleic acid content is higher in malignant cells.

This work has, of course, additional interest

to geneticists. For the fact that the DNA content of cancer cells differs from that of normal cells means that the **genetic complement** of cancer cells differs from that of normal cells — a fact always suspected but never before actually demonstrated in human beings.

At the laboratories of the Department of National Health and Welfare, in Tunney's Pasture, Ottawa, researchers have established that royal jelly from bees, and an isolated component of known chemical formula (10-hydroxydecenoic acid), exhibit definite combative properties against some types of cancerous tumors in mice.

It was Sir Frederick Banting, co-discoverer of insulin, who first encouraged royal jelly into its components (just as he was the sole supporter of Dr. Selye in Selye's first experiments on stress). Then in 1955, a graduate student assistant in the Toronto laboratories of these scientists found that while working with royal jelly his suspected disease, leukemia, seemed to be arrested. It turned out that he was in the habit of wiping off the spoon of royal jelly in his mouth.

So, as a long shot, the Toronto scientists looked into whether royal jelly (despite its dubious reputation, thanks to wild-&-woolly advertisers of high-fashion cosmetics) might not have cancer-fighting properties. The result was the present project, which has already established some experimental evidence to support the original hypothesis.

3-fold role

If any one institution in Canada exemplifies the role of that nation's laboratories in expanding the frontiers of life, health and well-being, it may well be the Connaught Medical Research Laboratories on the University of Toronto campus.

Here, 750 people (a large staff in a country of 17.5 million) are engaged in (1) medical research; (2) preparation and distribution of serums, vaccines and other essential products for the prevention and treatment of disease for the people of Canada and much of the rest of the world; (3) cooperation with the University in training personnel who will provide public health services for Canada (a dedicated band of officials who play no small part in the fact that the life expectancy of Canadians exceeds the Biblical 70).

It was in the summer of 1921 that Banting and Best discovered insulin, the anti-diabetes

extract. Though we are still too close to its discovery to grasp fully its contribution to the relief of human suffering, insulin ranks as one of the greatest advances in medicine.*

With the urgent need for large-scale production by the end of 1922, the Connaught Laboratories, neighbors of Banting on the Toronto campus, rushed in to help, beginning the meticulous process that requires 15,000 pounds of pancreas tissue from cattle and hogs to provide 1½ pounds of insulin crystals.

At Connaught, production of insulin has gone on a full 24 hours a day. Reason: because of the increased longevity of diabetics, thanks to insulin, and because the general life span everywhere is growing, world requirements have **doubled** each 6 years. Major developments in the chemistry of insulin, and in increasing its production, are taking place at Connaught. (Example: the development of the more effective form known as protamine zinc insulin, which means fewer daily injections.)

Most diabetics can take insulin for many years without developing increased tolerance to it or resistance to its action. Occasionally, however, resistance does develop. Connaught's F. J. Moloney and his group have now shown that insulin differs from species to species, and that resistance to insulin is sometimes caused by the development of antibodies.

One possible remedy: to find in nature an insulin sufficiently different from that produced from cattle and hog pancreas and **not** neutralized by human antibodies.

The Connaught discovery of insulin antibodies has another possible future application: they may be used in the speedy **bioassay** of insulin, an event that would be revolutionary (At present, insulin is assayed by the convulsive-mouse test or by its sugar-lowering effect in rabbits.)

* Observed the distinguished U. S. physician Seale Harris: "I treated diabetics for 29 years before Banting and his confreres gave us insulin, and I say many patients die after a few months or a few years of semistarvation. The children always died. Even now (a quarter-century later) I do not like to recall the feeling of hopelessness I felt."

Health by multiplication

Since the introduction of polio vaccine in Canada, departments of public health have been strained beyond the limit to maintain normal schedules of immunization for diphtheria, tetanus and whooping cough.

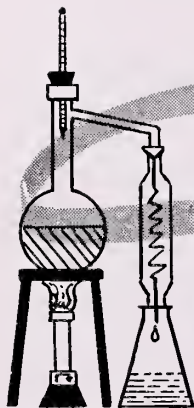
The obvious remedy: to combine Salk vaccine with the older multiple vaccines for diphtheria, tetanus and whooping cough. Technical difficulties were excessive — in the complex interaction of the ingredients, some of the ingredients of the older vaccines seemed to impair the activity of the polio vaccine. After 36 months of hard work, Connaught men solved the problems, produced a 4-way antigen that is now used across Canada for infant and pre-school children, making Canada the first country to use a "quadruple vaccine" in a national scale.

Despite the success of Salk vaccine, it does have two limitations: it acts too slowly to appreciably influence an epidemic already in progress; it does not stop the spread of infection in its non-paralytic form from one carrier to another.

These limitations may be overcome in part by another kind of vaccine being tested in several parts of the world: attenuated live virus. Here the Canadian approach again is typical: daring yet quietly meticulous. Not accepting as entirely reliable the findings of Russian experiments, Connaught researchers are carrying out their own studies, producing sufficient quantities of the live vaccine for large scale trials but not rushing headlong to introduce live viruses into the complex phenomenon that is the modern **community** until the new principle fully satisfies Canadian scientists.

The ailments of human beings are not of course the sole interest of Connaught researchers. A method for protecting baby chicks against dread Newcastle disease and bronchitis, a potent serum to prevent distemper and infectious hepatitis in dogs, even a successful vaccine to protect the mink — these too have come out of Connaught.

Guidebooks tell visitors that Canada's name comes from the Huron Indians, whose **kanata** means "collection of huts." To the observant traveler, "collection of laboratories" may well be a more literal translation for Canada 1960.



Advances In Drug Research

ATHEROSCLEROSIS AND DEXTROROTATORY THYROXINE

Man has constantly been concerned with his metabolism. Among the substances he has studied closely in recent decades is the thyroid hormone, levothyroxine, which is a vital factor in growth, maturation, and energy production. Like many substances vital to life, it has when dissolved in a suitable carrier the ability to rotate to the left the plane of polarized light passing through the solution. Hence, the term levorotatory. The mirror image of such a molecule causes rotation to the right. In this case, the related compound is dextrothyroxine, a substance not found in nature.

Among the facts man has discerned relative to the function of the natural thyroid hormone, the levothyroxine molecule, is that it participates in controlling the degradation and excretion of serum cholesterol. This knowledge has led to a development which is worth examining in detail.

At this time when many medical men, and the American Heart Association, have reached agreement that elevated cholesterol levels have a direct relationship to atherogenesis and coronary artery disease, it is noteworthy that a synthetic dextrothyroxine has

been developed to curtail hypercholesterolemia. A scientific development of major importance, the new synthetic, marketed as Choloxin, rises directly and naturally from the wellsprings of endocrinology — a current whose confluence with general medicine is well worth tracing.

The Stuff of Life

Mankind's concern with what is now known as endocrinology dates back beyond the written records, and is communicated to us in the cave paintings and rock sculptures of early man for whom reproduction of game and fish and his own kind was of primary importance. His medicines were psychic stimulants to fertility; and it is a fact of written record that much of the thought and practice of the early physician was given to compounding and administering powdered rhinoceros horn and other even less rational aphrodisiacs.

Endocrinology, as a science, however, began not with the gonads but with the thyroid gland. It may be said to have had an empirical beginning with the note of Roger of Palermo, 1180, that goiter could be benefited by administering the ashes of sponges and seaweed, an effect we now realize was attributable to the iodine content of the ash.

The peoples of southern Europe then had been aware of Alpine goiter for more than a thousand years, but it was not until 1858 that Schiff of Geneva first reported on its function, describing the manner in which death overcame animals whose thyroid had been removed. Over the next decades subsequent studies in animals followed shortly by surgical removal of human thyroid glands established that this organ, or its secretions, were of fundamental importance to nutrition and maturation and, in the long run, to reproduction and survival.

The first patient to be given dried animal thyroid substance by mouth was a woman who received her first dose in 1891 and who died in 1919, at the age of 74, after having consumed the thyroid substance of several hundred sheep.

This first spurt of scientific investigation lost its impetus by the turn of the century, and thyroid research did not again become a matter of widespread concern until about a half century later. In the meantime, however, isolated workers took great steps. In 1916, the same Kendall who in 1950 was to win a Nobel prize for his isolation, crystallization and identification of cortisone began his career auspiciously by isolating and crystallizing the thyroid substance to which he gave the name thyroxine. In 1926, Harrington showed that thyroxine was the hydroxyphenylether of tyrosine containing four atoms of iodine, two on each of the phenyl rings; and a year later Harrington and Barger synthesized thyroxine from tyrosine.

Thus the stage was set for practical synthesis of thyroxine. Dr. Leonard Ginger, vice-president for research and development at Baxter Laboratories, Morton Grove, Illinois, pharmaceutical firm relates the progress of events that began on August 1, 1949, when Paul Anthony, a Baxter chemist, was set to work on a special problem.

Production of one of the companies products, a protein hydrolysate, resulted in accumulation as a by-product of the relatively insoluble amino acid-tyrosine. Anthony was put to work on the problem of converting this into a useful product or drug.

Employing one of the established techniques, he was able to obtain only minute yields of thyroxine from tyrosine. But, by talent, perseverance, and ingenuity, he was

eventually able to improve the yields greatly — so greatly and by such original methods that he was able to obtain three patents for the process.

The tyrosine molecule, resembles the larger second half of the thyroxine molecule. The synthesis is achieved by adding iodine to tyrosine, then by an oxidative coupling process causing two iodotyrosine molecules to combine into one thyroxine molecule, with the loss of the side chain of one — very much, as Barger described the process — as if one tadpole had swallowed the tail of another.

With Anthony's methods which had increased the thyroxine yields from 0.1 per cent to 40 per cent, Baxter found itself in the position of a supplier of L-thyroxine. As Synthroid, this brand of thyroxine has become a standard prescription drug for use in all indications for thyroid extract itself.

In 1953, with the aim of examining D-thyroxine for therapeutic and/or metabolic effect, tyrosine, (which naturally occurs as the levo form) was converted into D-optical series from which D-thyroxine was prepared.

Disease of the Well-Fed Male

Man is a stranger to luxury. In all his half million years of evolution, only a few individuals have ever had the opportunity to become genetically adjusted to it — so few, indeed, that the genes which would make it possible for us all to eat as well as we should like to without damage to health are inadequately distributed. This has become clearly evident in recent decades as western peoples have achieved controls over machines and animals which have at the same time reduced the work load on their muscles and increased the animal products in their diet. A contemporary development of communication, particularly in medicine, has tended to emphasize that these "benefits" of leisure and luxury exact penalties on the human organism which the "underprivileged" peoples of the earth — though they may work long hours at onerous labor for a few bowls of cereal a day and seldom a bit of butter or sliver of meat — are not called on to pay.

The idea that one can live too well has not been quickly grasped and accepted by the American public, or even by organized medicine — although, as noted above, individual physicians have argued that heart attacks are a hazard primarily to men who eat too much

saturated fats. The idea was, and remains, anathema to meat packers, dairy groups and egg dealers. The American Heart Association was slow to accept the concept. However, in December, 1960, the AHA's Central Committee for Medical and Community Program went on record as advising reduction of animal fats in the diet of persons considered likely to be threatened by heart attacks — basing its conclusion on the apparent relationship between hypercholesterolemia and coronary artery disease.

Atherosclerosis, the clogging up of the arteries with plaques whose major constituent is cholesterol, is the price we pay for our relative liberation from drudgery and our diet so rich in meat and eggs and butter and cheese. It is a disease that afflicts more men than women. It damages most seriously the coronary arteries and those of the brain, leading to occlusion, thromboses, and hemorrhages which, in these loci are frequently fatal, but it also leads to serious damage of the abdominal aorta and vessels of the kidney and, especially in diabetes, may close off blood vessels in the feet.

This dreadful, cumulative narrowing of the bore of the body's blood vessels and particularly those of the vital heart and brain, each year causes more deaths among Americans than any other disease. Roughly half of all deaths that will occur this year will be due to cardiovascular disease, and atherosclerosis will be the prime factor in these. Public awareness of this threat has led to adoption of diets which are not followed, exercise regimens which are abandoned, and a great deal of social conversation about methods of avoiding "a coronary" or about the amount of activity, food, liquor, and sex activity permitted a patient who has survived one.

Scientific awareness of the threat of atherosclerosis, coupled with realization that men are unlikely to work harder or eat more sparingly than necessary, has led to a number of remedies — including the here-again-gone-again bicycle path Dr. Paul Dudley White succeeded in establishing to make a game of muscular effort for coronary candidates in Cambridge, Mass., and which was taken away from his "club" on the ground that it was a path for pedestrians who don't pedestrianize because it's more fun to bike.

Among biochemists, the interest in atheros-

clerosis led directly to the biochemical substance cholesterol. At one stage in the disease, the atheromatous deposits on and beneath the inner wall of blood vessels (which is, in essence, atherosclerosis) consist largely of cholesterol compounds. Moreover, the blood serum of persons who have atherosclerosis may be abnormally high in cholesterol. Cholesterol is an important constituent in many tissues, including nerves, and in vital body fluids. Animal foods are rich in it — egg yolk is a concentrated source — and the human body synthesizes cholesterol, catabolizes it, excretes it. It appears that atherosclerosis is a metabolic disease, not unlike diabetes, and that it represents a failure of the overfed, underexercised human organism properly to metabolize massive quantities of cholesterol.

Ordinarily, the management of such a disease entity succeeds only after the normal mechanisms which prevent the disease in most persons is understood. Studies were devoted to the differences in diets which appeared to reflect immunity to or susceptibility to atherosclerosis, and from these have come dietary-supplement remedies for atherosclerosis. Other studies examined the chemistry of the female, as compared with the male, and from these have come other drugs. Still others have followed the metabolic pathways of cholesterol and the thyroid hormone, and from these has come the new drug D-thyroxine. All aim to lower serum cholesterol, with 250 milligrams per hundred milliliters generally regarded as the maximum acceptable as normal, on the assumption that high levels lead directly to laying down of atheromatous plaques in blood vessels. The following is a brief summary of information developed in these three fields of research and development of new drugs.

The Unsaturated Fats

All fats are composed of carbon, oxygen, and hydrogen and some — notably those of animal origin — contain twice as many atoms of hydrogen as of carbon. These are the so-called saturated or hard fats, which the AHA and many individuals now assume may be a causative agent in atherosclerosis.

Other fats, mainly of fish and vegetable origin, contain two to ten fewer hydrogen atoms than their carbon atoms could hold. These are the unsaturated fats. They have been shown to reduce serum cholesterol

levels, and dietary supplements employing them are available to physicians. One such serum-lowering remedy is a capsule containing the highly unsaturated fats in concentrated form combined with niacin (which also reduces serum-cholesterol levels). Another fatty-acid capsule contains three vitamins and other compounds, plus desiccated liver. These remedies are administered as dietary supplements, much as are vitamins. Some physicians simply recommend substitution of liquid oils for animal fats in the diet, and there is a butter substitute containing vegetable oil for prescription use.

Support for these remedies comes, primarily, from epidemiological studies conducted among populations on meager, not necessarily beneficial diets — the Bantus, Japanese, Trappist monks, and others. A diet high in vegetable oils and low in animal fats, they show will reduce serum cholesterol, while menhaden fish oil works even better. The problem which such remedies do not solve is the natural human aversion to dieting. The normal American with access to eggs, butter, and steak doesn't hanker for the diet of the Bantu or the Japanese — no matter how free they may be of atherosclerosis.

The Fortunate Female

Women in their childbearing years have built-in defenses against cardiovascular disease. They can, and do, live healthily even with greatly heightened blood pressures during pregnancy, and the appearance of atherosclerosis among them is far rarer than in men (though in the so-called "have-not" countries it is lower still than in the U. S. and other "have" nations).

From the beginning — from the time when estrogenic compounds injected into roosters reduced the incidence of coronary vascular disease in these dominantly male creatures — it was recognized that the femaleness of women was the protective factor. This was an obvious research line for biochemists seeking a drug that would counter the deleterious effects of the average American diet. One drug which was developed as a result of this line of research has been available since early 1960. A chemical resembling estrogen, it has been successful in reducing serum cholesterol levels with little evidence of feminizing male patients. It is believed to act by interfering with the body's synthesis of cholesterol.

The Metabolic Pathway

The third line of research aimed at producing a means of preventing or controlling atherosclerosis followed the metabolic pathway of the synthesis and excretion of cholesterol. Scientists following this lead accepted a complex of variables — hypercholesterolemia and atherosclerosis vary with age, diet, and sex and are amenable to influence by diet and sex hormones. But they hold their focus true on a single factor: that the thyroid hormone is critical in metabolism and its level in the serum correlates inversely with the cholesterol level.

This is the point at which dextro-thyroxine enters the research picture. The preliminary steps have been outlined: synthetic L-thyroxine, like the animal thyroid extract, is successful in reducing serum cholesterol levels, but at the expense of stimulating the heart and metabolism generally.

There existed the possibility that synthetic D-thyroxine might reduce serum-cholesterol levels, without other marked effects.

It does. And it does more than anticipated, without undesirable cardiac or metabolic activity.

Pharmacological and toxicological tests uncovered a number of unanticipated quirks of the D-isomer of thyroxine.

The surprise and the bonus, however, was that it did reduce serum cholesterol, but at levels which made it necessary to be certain that L contamination was not producing this desired result.

This made it necessary for scientists to determine whether they had pure D-isomer that reduced serum-cholesterol, or whether they were getting unwanted L-activity. They could not unequivocally distinguish the two forms optically, since the specific relation of L-isomer is only 5 degrees to the left and the D- the same number of degrees to the right. Eventually, an enzyme approach was used — L-amino oxidase (obtained from snake venom) acts on the L-isomer only, oxidizes it, and makes separation possible. This rather neat biochemical separation process was worked out by a Baxter senior biochemist, Dr. Adeline Mather, and her group under the direction of Dr. Nicholas Kartenas, director of chemical research. As of February 1, 1961, Dr. Ginger could say confidently that Choloxin was then being produced at least 99 per

cent pure.

Testing in Humans

Sodium d-thyroxine's effectiveness in more than 1,000 patients now on record has been summed up by Dr. Thomas A. Garrett, medical director of Baxter Laboratories, as follows:

"Sodium d-thyroxine is an effective cholesteropenic drug, producing an average drop of around 25 per cent in elevated serum cholesterol levels.

It is virtually without colorigenic activity at recommended dosage levels. The standard dosage is 4 milligrams a day. It appears to produce its effect by expediting breakdown and excretion of cholesterol.

Patients with the highest pretreatment levels show the greatest decreases, with individual reductions ranging from 16.9 to 75 per cent in serum-cholesterol levels.

Total blood lipid levels also are reduced by the drug, BMR changes seldom occur in euthyroid patients, EKG changes of desirable nature have been observed in many patients with history of overt heart disease. CholoXin appears to be of therapeutic value in patients who previously have had myocardial infarcts and the only present contraindication is acute myocardial infarction. Patients with anginal symptoms may experience an increased frequency of attacks. The labeling states: "In the event of an anginal episode, a reduction of daily dosage by 2.0 milligram decrements usually minimizes these temporary effects, or the attack may be controlled by the use of a vasodilator drug. Clinical experience has shown that a satisfactory effect of lowering blood cholesterol levels can be achieved with 4.0 milligrams daily, with no apparent influence on aginal patterns."

Clinical studies by outstanding cardiologists and internists support this summary.

The decision to market this drug followed the examination of data from these studies and from others sufficient to total 700 patients. Dr. Garrett has summarized his conclusions as follows:

"A leading cause of death in the western world today is cardiovascular disease. In view of this fact, an urgent medical need is an adequate therapy to treat this major disease state. It is becoming increasingly clear from experimental data, both animal and human,

that the level of cholesterol in the serum is an etiologic factor in atherosclerosis. In the past, agents which lower the serum-cholesterol level have been relatively ineffective or excessively toxic, and the need for a reliable and safe agent is abundantly clear.

"For many years it has been known that the hormones of the thyroid gland influence the level of circulating cholesterol in the blood. However, the metabolic effects of these hormones preclude their use as cholesteropenic agents in all but a small minority of patients. A considerable research effort has been made to synthesize analogs of the thyroid hormones having minimal metabolic effects but retaining fully the cholesteropenic activity. This aim has been realized in sodium D-thyroxine.

"If, in hypercholesterolemic patients, the serum cholesterol is reduced toward normal levels and maintained there, the degenerative process of lipid infiltration of the intimal layer of the coronary and other arteries may be inhibited or stopped. The preponderance of evidence available today supports this rationale and permits us to conclude that CholoXin can achieve successful reduction of serum-cholesterol levels. In the 1,005 cases recently analyzed the average reduction was over 78 milligrams per cent in more than 90 per cent of all cases. Greatest reductions were achieved in patients showing the highest initial levels. There are no records of moderate to severe toxicity from use of the drug. Side effects have been observed in only 3.5 per cent of cases and have been eliminated by decrements of dosage by 2 milligrams a day."

How and Why?

Dr. Garrett is also interested, as a physician and for the purpose of informing other physicians, in pinning down incontrovertible evidence as to the mode of action of the dextrothyroxine fraction in the human body. While pharmacologists pursue the problem of atherosclerosis in pigeons, rats, and rabbits in Morton Grove, and Dr. David Kritchevsky of the Wistar Institute of Anatomy and Biology, Philadelphia, pursues similar studies on the rabbit, Dr. Garrett is encouraging other researchers to pursue studies in humans on the synthesis and excretion of cholesterol. Also in Philadelphia, Dr. Donald Berkowitz, an authority on lipid metabolism, is studying

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PRESIDENT'S PAGE

Rx



At the present time, pharmacists in four states are being charged with conspiring to fix prescription prices through the use of schedules. I would remind the members of our Association, as well as those of other states, that although we are not yet among those being charged, this campaign by the U. S. government is very much our concern. We should support the pharmacists in our sister states in any way that we can: financially, letters to our congressmen, etc. It is now that we should act.

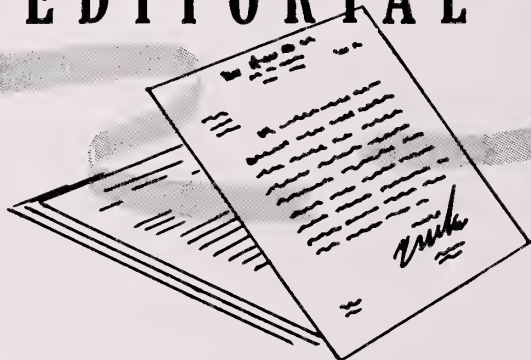
Our profession serves the public in many ways and all that we ask is a fair return for our services.

By banding together and working as a group we can protect the many small-store owners. Some large chain stores seem to want to eliminate fair prescription pricing schedules. Apparently, they are more interested in the "gimmick" department to entice people into their stores than they are in public health. LET US FIGHT NOW FOR HIGH PROFESSIONAL STANDARDS.

Sincerely,

Albert M. Zarecky

EDITORIAL PAGE



PHARMACY CONSULTING BOARD SEES GROWTH AND CHANGE

Pharmacy today faces a period of great new opportunity for growth in prosperity and in professional standing, but it also faces the possibility of radical change.

This was the consensus of the eleven-man Pharmacy Consulting Board of Lederle Laboratories whose first meeting recently concluded here. The group of distinguished pharmacy leaders expressed this outlook for the future during a give-and-take session which Lederle scientists and executives which climaxed a three-day board meeting here.

Members agreed that the momentum of pharmaceutical research together with the population boom insures an increased demand for prescription drugs.

Edward T. Mazilauskas, of Clayton & Edward Drug Store in New York City, said, "If all of the carefully laid predictions are correct, it would appear that the total prescription volume in this country within the next ten to fifteen years at the most, will nearly double."

Some reservations and warnings, however, were expressed.

"Complacency has no place in our business," Fred L. Tannehill of the Owl Phar-

macy, Pineville, Louisiana, said. "Pharmacy must meet changes and adjust itself accordingly. If not, we will find ourselves on the bottom of the business ladder. We must meet the demands."

One of the changes several members saw for the future was the gradual disappearance of the small general merchandising kind of store. Lee Eiler of Fidelity Prescriptions in Dayton, Ohio, said that "within the next two decades two types of drug outlets will dominate — the super-market and the professional pharmacy."

Mearl D. Pritchard of Pritchard's Pharmacy, Buffalo, saw a danger in this trend. He foresees the possibility of "increased commercialism in these larger drug stores and a tendency towards unprofessional advertising and practices that are patterned after other highly competitive retail operations."

One key factor in the direction pharmacy will take was expressed by Dean H. G. Hewitt of the University of Connecticut School of Pharmacy. He stated that "for high school students we have vocational opportunities which offer intellectual challenge and employment opportunities matched by few professions." Richard G. Henry of Madison General Hospital, Madison, Wisconsin, agreed and said that the future of pharmacy "will be

directly proportional to the education and training required in preparation for professional practice. Pharmacy, to keep pace with other professions, will have to concentrate its efforts to attract eligible candidates from high schools for pharmacy careers."

Carl Evans, President of Gray Drug Stores, Cleveland, expressed the feeling that "both the pharmaceutical manufacturer and the medical profession are going to be more and more dependent upon the pharmacist" for both his knowledge of prescription drugs and his ability to supply them as required.

In general, a new era of professionalism for pharmacy was foreseen by the group. This was expressed by William G. Galbreath of Ritchie Woods Drugs, Eureka, California. Mr. Galbreath stated that "in the decade ahead the dispensing of medication by the pharmacist will finally be recognized for what it is — a professional service, rather than the sale of a commodity."

Lee W. Stowell of Stowell's Pharmacy, Tacoma, Washington, indicated that based upon the momentum of pharmaceutical research, "we can predict nothing but a brilliant future for pharmacy in the United States."

"There will always be a drug store," summed up Leon L. Kahanek of Kahanek & Renger Drug Store, Hallettsville, Texas, "as long as management of the drug store is alert, sensitive to the needs of people, with profit not the only objective."

A number of board members saw an increasing shift in the future from dispensing by private stores to the dispensing by hospitals, clinics, and other institutions, and several mentioned that they expected pressure for greater government participation in the health picture, particularly as regards medical care of the aged. Tighter controls by state and federal governments were also foreseen for the distribution of legend items.

In order to meet the challenges confronted by the profession, Mr. Eiler called for a national organization authorized to speak for all dispensing pharmacists "to work with manufacturers, wholesalers, the medical profession and government welfare programs" if we are to achieve a workable plan that will be ac-

ceptable to all concerned.

The board was created by Lederle to recognize pharmacy's growing responsibility in the advancement of the quality and scope of medical care. It will assist Lederle by giving its advice and counsel in matters pertaining to pharmacy-industry affairs.

ADVANCES IN DRUG RESEARCH—

(Continued from Page 208)

the effect of Choloxin on fat tolerance in the human.

In one reported animal study, Dr. Donald F. Tapley of Columbia University discovered that the D and L forms of thyroxine are concentrated in different tissues in the rat, with the D appearing at a level ten times greater than the L in the liver and a slightly lower level in kidney tissue, while L concentrations were greater than D in peripheral tissues, the brain, and the heart. Nobody is yet willing to draw any firm conclusions from such findings, and many more other animal studies must be run with modifications and variations before firm answers are available. But they tend to bear out the observed effects of the D, which are found in the synthesis and excretion of cholesterol. Both the liver and kidney are organs of excretion, and the liver is recognized as the body's major factory of metabolic processes.

And Where?

No sober scientist would suggest that the development and successful testing of a thyroid hormone fraction which lowers blood-serum cholesterol levels will be the final answer to atherosclerosis. But, by the same token, this achievement is certain to be recognized as a major biochemical breakthrough and as a suggestion of wild-blue-yonder advances in research into the biochemistry of thyroxine, its fractions and its analog.

PHARMACY NEWS

CONVENTION PLANS IN FINAL STAGES

Rapid City pharmacists are putting the final touches on their plans for the Seventy-fifth Convention of the South Dakota State Pharmaceutical Association.

The Convention will be held June 18-20 at the Sheraton-Johnson Hotel. Donald Knutson is local secretary and program chairman for the event.

Registration will be held from 8:00 - 12:00 a.m., Sunday, June 18, in the hotel lobby. From 2:00 - 6:00 p.m. there will be supervised tours and entertainment.

The annual Drug Travelers Party is scheduled for 7:00 p.m. at the Jolly Acres Country Club.

The first general session of the Convention will be held at 9:00 a.m. Monday, June 19, with the Memorial Hour led by Roy Doherty. The morning and afternoon closed sessions will feature discussions of problems affecting pharmacy at state and national levels.

The Convention Banquet will be held in the Ballroom of the Sheraton-Johnson at 7:00 p.m. There will be no speaker. An evening of entertainment and dancing is promised.

Tuesday, June 20, will start off with the Veteran's Breakfast at 8:00 a.m. followed by the final session, luncheon and adjournment.

South Dakota pharmacists are reminded to get their reservations in early due to the tourist traffic in Rapid City in the summer months.

COOPERATIVE FUNDS AID DENTAL- PHARMACY RESEARCH PROGRAM

A cooperative program of dental research at South Dakota State College, which is now in its fourth year, may be the only one of its kind in the nation.

Research studies grew out of a meeting of representatives of the South Dakota State Dental Association, faculty members of the State College division of pharmacy and the South Dakota Pharmaceutical Association.

A total of \$3,800 in cash plus some equip-

ment has been contributed as a result of a planning session four years ago, and Harold Bailey, State College dean of academic affairs and director of the dental-pharmacy research program, say:

"That \$3,800 contribution paved the way for greater research grants. In fact, it was the forerunner of the \$42,653 three-year grant received from the National Institute of Dental Research of the U. S. Department of Health, Education and Welfare in January 1960, to study the relation of the formation of body protein to the process of tooth decay."

Dr. Bailey, who is the principal investigator on the latter project, also says:

"I know of no other cooperative program like it, and I believe State College is the only college in the nation that has a dental-pharmacy program involving the state dental and pharmaceutical association and an institution of higher learning."

Contributions, Bailey points out, have come from the two associations and from Dr. William Kessler of Brookings.

It was noted originally that available personnel at State College in the fields of pharmacy, pharmacology and pharmaceutical chemistry (including biochemistry and analytical chemistry) would make possible dental research of a basic science nature.

Thus developed a project to study the effect of a growth hormone on tooth extraction wound healing, and a second project, currently continuing under Norval E. Webb, Jr., associate professor of pharmacy, involves study on the formulation of fluoride solution that will not deteriorate and will be more pleasing to the very young patient. The latter project was begun in July 1960.

RELIEF PHARMACIST

Pharmacy staff member available to perform relief duties during summer months on weekends or by the week. Registered in both Minnesota and South Dakota. Contact Dennis Hoogland, Division of Pharmacy, South Dakota State College.



Scientific

PAPER

Hyperparathyroidism: Report of a Case

E. G. Huppler, M.D., Dept. of Surgery

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Longstanding cases of primary hyperparathyroidism are becoming more infrequent because of the increasingly widespread knowledge of the pathophysiology of the parathyroid glands. On occasion the onset of hyperparathyroidism can be so insidious and the symptoms mimic symptoms of other conditions so deftly that a patient can pass from physician to physician and from clinic to clinic and the diagnosis continues to elude us. The following case is a prime example of this. It also points out that a physician can never make a diagnosis that is not included in his differential list of diseases.

CASE REPORT

A 62-year old white widow was seen on 8-17-60 with the chief complaint of having a tumor in her left tibia, which was asymptomatic.

The patient slipped and fell on 12-23-59 and fractured her left tibia and had been treated in a small community in a different state. She wore a cast for 5 months because a tumor of the tibia delayed healing of the fracture. (X-rays taken had shown a lesion thought to be a giant cell tumor of the left tibia.)

It was found on review of her past history that she had the first bone tumors removed in another state in 1945. This was followed by excision of a bony cyst from the left tibia in

1947, cholecystectomy and appendectomy in 1950, excisions of a giant cell tumor from the anterior wall of the left maxillary antrum in 1951, biopsy of a giant cell epulis from the hard palate in 1953, February of 1955 and July, 1955. In January and September of 1956 the patient received deep X-ray therapy to the left maxilla and pelvis for bone tumors.

On this admission, roentgenograms of the left tibia showed osteoporosis of disuse and lesions of fibrous dysplasia. The fracture of the left tibia was well healed. X-rays of the pelvis, hand and skull showed changes suggestive of hyperparathyroidism. (See Figures)



Left Tibia



Pelvis



Hand



Skull



Skull

Figure 1. X-rays of tibia, pelvis, hand and skull. Note the bone destruction, bone formation and cyst formation. After removal of the parathyroid adenoma small cysts will persist. This patient had recurrent tumors of the maxilla, and a spontaneous fracture of the left tibia.

The blood chemistries were as follows. Calcium 12.9 mg. %, phosphorus 1.75 mg. %, alkaline phosphatase 11.95 S. J. units. Total proteins of 7.5 G. %; albumin of 5 G. % and globulin of 2.5 G. %. The A/G ratio was 2.1. The hemoglobin was 10.8 G. % and the hematocrit was 34 volumes %. There was a leucocytosis of 13,300 with 82% polymorphonuclear leucocytes, 1% eosinophils and 17% lymphocytes. Serum protein electrophoretogram showed a relative increase of the 1 & 2 and beta fractions.

Calciuria was evident by a Sulkowicz of 5 +. The specific gravity was 1.010, acid reaction, no albumin, no sugar. There were 6-8 white blood cells per high power field. The patient could concentrate her urine to a specific gravity of 1.017 and dilute her urine to a specific gravity of 1.001. An intravenous pyelogram showed bilateral nephrocalcinosis with good radiological evidence of function.

On September 9, 1960, the patient's neck was explored through a collar incision and a benign parathyroid adenoma composed of clear and chief cells was removed from the right inferior parathyroid area. The benign parathyroid adenoma weighed 4.9 grams.

Postoperatively the patient did not develop any tetany despite her generalized osteoporosis. She was given continual intravenous infusions for 48 hours continuing calcium gluconate. (5 grams daily.) She was then given oral calcium gluconate, 1 gram four times daily, and 50,000 units of vitamin D twice daily. The patient was closely observed for any indications of tetany, however they did not develop despite the immediate decrease of her serum calcium to 8.3 mg. % and a rise of serum phosphorus to 2.75 mg. %. The urine Sulkowicz test immediately became negative after surgical extirpation of the parathyroid adenoma.

CLINICAL PICTURE

When the parathyroid glands produce an excess of parathyroid hormone by active tumor, adenoma or hyperplastic tissue, the patient develops the chemical changes that result in hyperparathyroidism. Single adenomas are found in 80% of the cases and multiple adenomas in 10% of the cases. Primary hyperplasia in 10% of cases and a carcinoma of the parathyroids causes hyperparathyroidism in about 1% of the cases.

The normal serum calcium is 9.0 to 10.6 mg

%. In a Mayo Clinic series of parathyroid tumors, the calcium values varied between 10.6 mg % and 17.8 mg %. Any elevation of the serum calcium above 10.5 mg % is highly suggestive of parathyroid disease. The normal serum phosphorus is 2.5 to 3.9 mg %. An excess of parathyroid hormone causes a phosphate diuresis with a resulting decrease in the relationship of the calcium-phosphorus solubility product. This results in a compensatory rise in the serum calcium by drawing more calcium from the gastrointestinal tract and the bones. There is resorption of bone followed by an increase in the serum calcium. There is an increase in the urinary excretion of calcium that may lead to generalized decalcification and fibrocystic tumors of the skeleton and frequently renal calculi. Because parathormone affects only ionic calcium it is significant to determine the serum proteins to determine the ration of free ionic calcium to the protein bound calcium by using the linear chart of McLean and Hastings. The excess parathormone results in an increased osteoblastic response with the resultant classical picture of Von Recklinghausen's disease characterized by general decalcification of the bones with fibrosis, osteoclastic and osteoblastic proliferation. In cases with bone disease there is a high serum alkaline phosphatase.

Symptoms and physical findings related to the urinary tract are most frequent. These include renal calculi, renal calcinosis and polyuria. In some series 5% of all renal calculi are due to parathyroid disease.

The vague symptomatology relative to hypercalcemia can easily be interpreted as functional symptoms. The hypercalcemia causes a decreased neuromuscular excitability of skeletal and smooth muscle. Such symptoms are hypotonia, weakness, hypermobility of joints, distension, anorexia, constipation, nausea and vomiting.

Symptoms relative to bone complications are frequently absent. Milk drinkers may have sufficient excess calcium furnished via the gastrointestinal tract to protect the skeleton from decalcification. The earliest x-ray changes are:

- (1) A ground glass appearance to the skull.
- (2) Coarsening of the trabeculae and subperiosteal bone resorption of the phalanges.

- (3) Subperiosteal resorption of the lamina dura of the teeth.

DIFFERENTIAL DIAGNOSIS

Primary hyperparathyroid disease must be differentiated from:

(1) Secondary hyperparathyroidism due to chronic renal insufficiency, rickets or osteomalacia due to steatorrhea, franconis syndrome, etc.

(2) Other conditions causing hypercalcemia such as hypervitaminosis-D, multiple myeloma, osteoporeses, metastatic carcinoma, Boeck's sarcoid, and milk-alkali syndrome.

(3) Other skeletal conditions such as osteoporosis of disuse, senility, menopause, Cushing's disease, osteomalacia, and osteogenesis imperfecta.

DISCUSSION

When the surgeon undertakes the definitive treatment of primary hyperparathyroidism he must be convinced of the accuracy of diagnosis for it then becomes his responsibility to find and remove the tumor. 90% of the tumors are in the neck, but 10% of the tumors are found in the mediastinum — some as far caudad as the diaphragm. The surgeon must recognize the normal size, appearance, and embryogenesis of the parathyroid glands. Most tumors will be located within 2 cm. of the lower pole of the thyroid gland. Parathyroid adenomas vary in the size from 100 mg. to 120 gms. The majority of the glands weigh less than 2.5 grams. It is imperative that the surgeon operate in a bloodless field and that he has an expert knowledge of the blood supply of the parathyroid glands. Tumors located in the superior mediastinum frequently have a tell-tale vascular pedicle leading from the neck to the tumor. A methodical identification of each parathyroid gland is the objective of the operation. No tissue is removed until all glands are identified. If examination of all the glands proves that there is no single adenoma, but rather a diffuse hyperplasia of all glands, a sub-total resection should be done, preserving between 30 and 200 mg. of gland together with its

blood supply. The services of a pathologist are indispensable.

If the adenoma has not been found at the end of a complete cervical exploration the surgeon should know which parathyroid gland is missing. The mediastinum is then explored through a sternal splitting incision from the sternal notch to the xyphoid.

Postoperatively 50% of patients will develop some degree of tetany. With advanced cases of bone disease the bones will take up calcium very rapidly. The patient should be closely observed for carpo-pedal spasm and Chovostek's sign. There is usually an oliguria for 24 hours. Intravenous calcium infusion, oral calcium, Vitamin D, and A-T 10 (dihydro-tachysterol) are used to prevent tetany and frequently large doses are required to accomplish this.

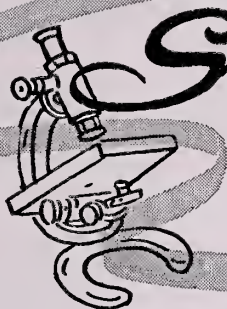
The ultimate result of treatment depends upon the amount of renal damage that has occurred. The disease may have progressed to an irreversible stage and the patient will die of renal insufficiency and hypertension. Early diagnosis and surgical treatment of hyperparathyroidism is indicated before this damage occurs.

SUMMARY

A patient with primary hyperparathyroidism of fourteen years duration has been presented. Recurrent tumors of the maxilla, cysts of the tibia, and a spontaneous fracture characterized her long clinical course. A benign parathyroid adenoma was found and removed at surgical exploration of the neck. The diagnosis, differential diagnosis, clinical course and surgical management have been discussed.

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Scientific

PAPER

Present Status of Fibrinolysin Therapy

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Medical College and Hospital,
Philadelphia, Pennsylvania

What is fibrinolysin? It can be seen in Fig. I that the end product of the blood coagulation process is the fibrin coagulum. Fibrinolysin here is a proteolytic enzyme which is developed in the human blood stream from an inactive precursor, profibrinolysin, by a kinase, also shown in the figure. The fibrinolysin activity is such as to chew up or to lyse, the fibrin clot. Bacteria, of course, have been known for many years to contain parts of this mechanism which they use for their invasiveness. For example, clostridia contains an overt fibrinolysin, while other organisms, such as staphylococci and streptococci contain kinases which activate the patients' own profibrinolysin to form active fibrinolysin.

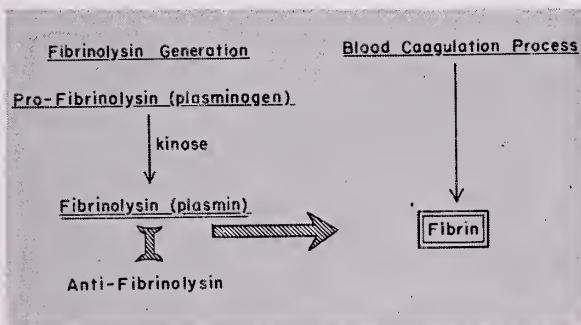


FIGURE I

How does fibrinolysin function physiologically? Profibrinolysin is found circulating among the plasma proteins normally. Normally, antifibrinolysin is found in the circula-

tion also. However, this is not true of fibrinolysin. There is no fibrinolysin present in blood normally. Various tissues, such as lung, prostate, uterus (not placenta however) and others contain kinase intracellularly. Also, kinase is found in animal and human urine and is called urokinase. Through a variety of mechanisms, such as fear, trauma, surgery, necrosis and of course, infection of certain types, kinase is released into the blood stream initiating the reaction shown. In the beginning, there is a combination of the fibrinolysin produced with antifibrinolysin. And, depending upon the level of antifibrinolysin present in an individual, overt fibrinolysin may or may not be evidenced. Normally, clotted blood will not be lysed until after 2, 3 or perhaps more, days, both in vitro and in vivo. This may be correlated with the fact that fibroblastic proliferation and connective tissue repair have progressed to a moderately advanced stage by this time in vivo.

How is fibrinolysin used pharmacologically? The reader, is undoubtedly familiar with preparations used for speeding dissolution of extravasated clotted blood, such as subcutaneous hematoma, bruises and the like. This combination of a mucolytic enzyme and the kinase derived from streptococci. So called streptodornase — streptokinase combinations have been put on the market under the names variously called "Parenzyme, Orenzyme," etc. In practice, when the attempt is made to lyse intravascular clots, two general types of preparations are used. One is a kinase solution given intravenously, the other is a purified blood fraction containing profibrinolysin, also called plasminogen. This has been activated with a kinase, either from streptokinase or from human urine. And thus one encounters so called 'SK' (streptokinase) activated plasminogen and 'UK' (urokinase) activated plasminogen.

How are these preparations used therapeutically? Most of the work with fibrinolysin preparations have been in the therapeutic area, after thrombotic or thromboembolic episodes. As yet, there is no general experience with attempts to employ the agent prophylactically. Furthermore, its use therapeutically has been generally confined to hospitalized patients. In the usual case, if there is such an entity, where one is sure, or mod-

erately sure of a thrombotic issue, the lysin ministered as a constant intravenous drip at preparation is brought into solution and administered as a constant intravenous drip at the rate and concentration specified by the instructions. The type of units of fibrinolysin vary with different commercial preparations, reflecting different assay methods employed. It is considered good practice to surround the bottle of fibrinolysin preparation with ice to keep it cold during administration to avoid potency loss at room temperature. The sites of thrombosis for which this therapy has been mostly employed include the extremities, cerebral, coronary and pulmonary sites.



FIGURE II

When is the best time to use fibrinolysin? Here we deal with the all important question of timing. (Fig. II). In this field, as in so many other situations in life this is a basic consideration. First there is that best period, after definite formation, where the nature of things have been recognized and where biochemical and physiological conditions are optimal for best results. In the case of fibrinolytic therapy, this is in the first day or two after thrombus formation. Next comes the

'now or never' period — connective tissue changes are setting in and altering the nature of things. Now — "If 'twere done — when 'twere done — 'twere well 'twere done quickly." Finally, the 'too late' period. Connective tissue formation has proceeded too far —

Dangers

- Pyrogens
- Hemorrhage —
 - Necrotic, infarcted tissue
 - Hypocoagulability (?)
 - Activation of intrinsic profibrinolysin (?)
- Embolus — from thrombus (?)

Difficulties

- Variable composition
- Variable activity
- Lack of clinical guide
- Lack of end point
- ~~Antidote~~

FIGURE III

one can only think of what might have been. This is about 3-4 days for fibrinolytic therapy.

What may be the dangers and difficulties of the mode of therapy? (Fig. III). The dangers may be listed briefly: first, there is a variable contamination or possibility of variable contamination of pyrogens from the bacterial source, the streptokinase employed. Also, there is danger from hemorrhage into an infarcted to encephalomalacic area. Another danger, which apparently seems to be more theoretical than actual, is that of converting a thrombus to an embolus; for instance dislodging a clot in the extremity producing a pulmonary embolus. There seems to be little evidence for this practically. Another danger is the production of a hypocoagulable state, and subsequent hemorrhage. Further dangers include the development of uncontrolled

high titers of fibrinolytic activity, particularly where one meets with combinations of high kinase in the preparations, and low antifibrinolysin titers in the patient. Among other difficulties one might mention is that the single dose directions do not take into account the variable antifibrinolysin titers of various patients. Further, there is a variable composition of these lysin preparations, even for a given brand. This is due to lability of the material, aging, storage and temperature inactivations. Indeed, some commercial preparations have been deliberately tested in the laboratory and found to be entirely devoid of activity. Further, one encounters various units in criteria for administration. A pre-prominent school of thought now administers the material at such a rate and concentration that no overt fibrinolysin is detectable in the circulation. This is done on the theory that the affinity of lysin for the clot is greater than the affinity of lysin for antilysin. Thus, a kind of "swap" of lysin is envisaged between antilysin carrier and the clot. Another difficulty is the lack of a clinical guide or test during administration. One finds that there is often lack of knowledge if one is giving too little, too much or even any that is effective. Then there is, in many cases, a lack of definite end point to measure positive effect after the material is administered. It is the feeling of the author that a specialized laboratory is needed to follow the administration, and that each case properly should be considered different. Until recently, another serious difficulty was lack of an antidote. However, general experience across the country with a new agent called epsilon amino caproic acid which has been used as an antifibrinolysin suggests that this material may indeed be the answer. It seems to be immediately effective and nontoxic.

Under proper conditions what can be accomplished by employing fibrinolytic therapy? Let us be very clear here, that definite and clear cut success has been reported from reliable investigators and institutions. In some instances for example, pre and post X-rays with contrast media injected intravenously, have shown restoration of the potency of lumen. On the whole, these striking positive responses represent less than 20% of cases.

In summary, the basic biochemical, physio-

logical and pharmacological aspects of fibrinolysin therapy have been covered. Some aspects of its therapeutic use, its dangers and difficulties and successful employment have been mentioned. One can conclude that presently this mode of therapy is best regarded as in a stage of clinical trial and adjustment, needing alteration and refinement at many levels. At present it is properly limited to institutions having specialized laboratories and responsible, interested and trained personnel to aid and control its administration. It is nonetheless an agent of proven efficacy and of great promise.

ANNUAL MEETING HIGHLIGHTS

New Association president, Dr. C. J. McDonald's western walking stick presented by the Rosebud District gained much comment during the meeting. Its subsequent use by the prexy is questionable.

* * *

300 attendance at the banquet set a record for the Medical Association when not involved in a joint meeting. This compares with

208 in attendance at Rapid City two years ago, and fewer in Aberdeen last year.

* * *

Jay Marshall was well received at the dinner dance with his line of patter, magic tricks, and ventriloquism.

Governor Gubbrud appeared delighted to hear Jay Marshall tell him that he was the magician in the crowd by winning the election during a Democratic year.

* * *

Attendance awards were won by L. J. Pan-kow, M.D., Sioux Falls; V. Norgello, M.D., Redfield; and S. F. Sherrill, M.D., Belle Fourche.

* * *

The annual Elks crippled children's clinic, sponsored by the South Dakota Elks Association and the State Department of Public Health, this year had the biggest registration in the history of the clinic. Six specialists brought to the clinic checked children from Clark, Codington, Deuel, Hamlin, Roberts and Grant counties.



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New State Medical Association president, Dr. C. J. McDonald and Mrs. McDonald are caught by the photographer after presentation of their Norwegian Tower Cake at the annual dinner in Sioux Falls on May 15th. The cake, made by Mrs. A. K. Myrabo, depicts the highlights of Dr. McDonald's career including his interests in medicine, golf, magic, his family, and big cigars.

Dr. McDonald assumed the presidency during the 80th annual meeting and will serve through the 81st Annual Meeting which is scheduled for Bismarck, North Dakota, June 2-6, 1962.

MEDICAL LIBRARY BOOKSHELF



SPACE AND AVIATION MEDICINE

Last month, all America and the free world rejoiced in the accomplishment of Commander Alan B. Shepard as he took his Bedstone Missile and the project Mercury Space Capsule 115 miles into space.

The medical aspects necessary for the preparation of an astronaut are of the utmost importance. They have undergone severe mental and physical tests in preparation of the stress loads, which occur during the take-off and the tumbling and twisting of the space capsule, and for the weightlessness and the re-entry into the atmosphere and the landing. Dr. Stanley White is the Director of the Medical Support program and Dr. Robt. Vaos, one of the psychiatrists. One of the pleasant aspects of the program is 1st Lt. Dalores O'Hara, 24, who makes certain that the astronauts eat the high energy, low residue diet prescribed by the experts in the space feeding field, and who assists with the physical examinations.

A good book on the space program is **Man in Space: the United States Air Force Program for Developing the Spacecraft Crew**

edited by Kenneth F. Gantz, Lieutenant Colonel of USAF, Duell Sloan and Pearse, 1959. Major General Dan C. Ogle, USAF author of the first chapter, "The Threshold of Space," states, "To be effective space medicine must be wedded to space engineering, the 'hardware department'. In space there is no oxygen, no barometric pressure, no ambient air, and no atmospheric filter protecting us from cosmic and solar radiations. There is no molecular diffusion of light, and no medium for transmission of sound. There is no support from the substance of air, and no stabilizing influence of gravity." These many problems must be solved by the engineers in designing the space cabin working with the space-medicine experts.

Extensive tests must be made to ensure survival of the physiological and psychological trauma. Research must be conducted to evaluate the effects of claustrophobia, day and night cycle changes, personality conflicts and variations of motivation.

The 2nd, 3rd and 4th chapters of this book are concerned with medicine. The first 2 are by Dr. Hubertus Strughold; "From Aviation

Medicine to Space Medicine" and "Basic Factors in Manual Space Operation" which includes Space Medical characteristics. Chapter 4 is "Biomedical Aspects of Space Flight" by Brigadier General Don Flickinger USAF.

The first chapter gives in some detail the history of aviation medicine from 1949 when the Dept. of Space Medicine at Air University's School of Aviation Medicine was established at Randolph Air Force Base in Texas to the present time. Mention is made of the Aero Medical Association which was formed in Chicago in 1950 for promoting Space Medicine and which holds panel discussions at its annual meetings on the latest developments in this field.

The Association's journal formerly named The Journal of Aviation Medicine is now Aerospace Medicine. Its editor is John P. Marbarger, Director of the Aeromedical Laboratory at the University of Illinois. The April 1961 issue contains an article by Captain Philip B. Phillips, MC, USN entitled "Human Engineering or Engineering the Human-Which?", p. 300. He emphasizes that space medical scientists have well defined the stresses expected to be imposed upon man in space but opinion is somewhat divided as to the ability to withstand these stresses when defined as a function of operational time. Aids toward engineering the human being during extended space missions are drawn from (1) pharmacological concepts, wherein chemical agents are suggested for radiation protection, metabolic alterations, motion sickness, excretory problems, cardiovascular dynamic changes, and enhanced resistance to psychophysiological stress; (2) the application of hydrothermia for increased tolerance to radiation, lowering metabolic oxidation requirements, and also for psychophysiological problems; (3) provision for long term pre-training to allow for adaptation to specific or combined psychological and physiological stresses; and (4) the use of Yogi practice for voluntary control of certain psychophysiological functions ordinarily considered to be under involuntary or automatic control for Western man. The author informs us that it has been reported that the Russians have borrowed 6 Indian Yogis to help train candidates for space travel on breath and muscle control.

In an article in the Jan. 1961 issue of Aerospace Medicine written by Dr. Bruce Learner entitled "Education and Training in Civil Aviation Medicine" the suggestion is made that medical schools would be the logical place for the beginning of education in the basic factors of aviation medicine. The physician in practice who is interested in aviation and who is concerned with the physical examinations of Class II and III airmen should be given a program of instruction with refresher courses and seminars so all designated examiners can keep up to date on the physical requirements of the airmen. It is recommended that the Class III group which are private pilots and student pilots be examined by FAA designated examiners. The Aerospace Medical Committee on Education and Training has in the past 6 months contacted all state medical associations in regard to their interest in aviation medicine. Some of the county societies have established sections on aviation medicine. Accident and mortality figures show an astounding number of accidents occur among private and student pilots. Although many are due to mechanical problems there is no doubt that many more are due to improperly certified pilots with physical defects.

GIFT BOOKS

Recently received from the Commonwealth Fund are 2 vols. of **Congenital Malformations of the Heart** by Helen B. Taussig, 2nd ed., Harvard University Press, 1960.

Dr. Taussig, Prof. of Pediatrics at Johns Hopkins University became interested in congenital malformations of the heart when an intern in the cardiac clinic for children at the Harriet Lane House of Johns Hopkins Hospital. At first she was only interested in acquired heart disease and remarked that she intended to ignore the study of cardiac malformations because they are hopeless finalities limited to giving general advice and prognosis. Later she confessed to an interest in them saying they were her "crossword puzzles." Becoming proficient in diagnosis and autopsies on children with malformed hearts she proved the correctness of her observations and interpretations. The fluoroscopic examination enabled her to estimate with accuracy the sizes of the chambers of the heart and the positions; relations and size

of the great vessels, and also the detection of dilation and filling of the larger branches of the pulmonary artery in the long distance.

Dr. Blalock's development of an operation of anastomosis of a main branch of the aorta to the pulmonary artery gave Dr. Taussug's studies a practical usefulness and meant life for some of the afflicted children.

Vol. 1 includes the fundamental principles in the clinical diagnosis of cardiovascular defects and with the general medical care of patients with such conditions. Vol. 2 is concerned with specific malformations, all based on the author's experience. Line drawings, circulatory diagrams, angiocardiograms and x-rays add immensely to the clarification of the text.

Mrs. Esther Howard
Medical Librarian

MINUTES SOUTH DAKOTA JOINT COMMITTEE FOR IMPROVEMENT OF CARE OF THE PATIENT

The thirteenth meeting of the SDJCICP was held as a luncheon meeting at the Marvin Hughitt Hotel in Huron on March 29, 1961. Attendance included the following: four members and the executive secretary of the SDSMA, six members from the SDHA, two members from the SDLN, one member and the executive secretary from the SDNA, four participating group members and two guests.

The meeting was called to order by Miss Edna Davidson, Chairman, at 1:00 p.m.

Moved and seconded that the group dispense with the reading of the minutes. Carried.

The annual financial report was read by the secretary, Helen Boyd. The balance on hand as of March 17, 1960 was \$39.70; total receipts \$52.50; total disbursements \$25.05; balance on hand as of March 29, 1961, \$67.15. Moved and seconded that the report be accepted. Carried.

There was no old business.

Announcement was made of a number of conventions, meetings and workshops to be held during the spring and summer:

South Dakota Hospital Association — April 25-26, Huron

Association of Nurse Anesthetists —

Medical Record Librarians —

South Dakota Medical Association — May, Sioux Falls

South Dakota Heart Association — May 26, Aberdeen

Upper Midwest Hospital Association — starts May 10, St. Paul

South Dakota Nurses Association—October 3-4, Yankton

Lt. McGrath will conduct several fire schools in the state during the month of May; more information will be forthcoming from the S. D. Dept. of Health.

Short term courses of interest to be held at South Dakota State College include:

'Effective Utilization of the Licensed Practical Nurse' — July 17-21, traineeships are available.

'Legal Aspects in Medical Care' and 'Cardiac Nursing' by Doctor Helen Creighton.

A short discussion followed regarding the value of National League for Nursing membership. This organization has assumed an important position in attempting to improve nursing care, primarily through changes in nursing education; since these changes affect the care of the patient it would seem important to participate (through membership) in formulating policies.

Sister M. Innocentia, chairman of the nominating committee, presented the following slate: Mr. Pengally, chairman; Dr. Sanders, Vice Chairman; Florence Atkinson, Secretary. Moved acceptance of the report. Moved and seconded that nominations cease and that the secretary be instructed to cast a unanimous ballot. Carried.

The program consisted of an informal panel discussion of the topic 'Are We Fulfilling Our Purpose?' (as an organization). Mr. Rogers acted as moderator and participants were Dr. Sanders, Florence Atkinson and Helen Boyd. There was very good participation from the entire group. The following points were made:

1. The SDJCICP was organized prior to the national JCICP. Miss Davidson, Mr. Foster and Mr. Rogers were early members.
2. Early meetings of the SDJCICP centered around questions submitted by the var-

ious members; group opinion on these questions was made available to the parent organizations. About 1957, the group became more passive in that programs were presented at each meeting, thus limiting the time for discussion. Discussion of questions or problem areas would be preferable to a planned program.

3. The group should study one large question or problem at each meeting.
4. No doubt members of the SDJCICP benefit by attending meetings but do they take this information home and does it get to the parent organizations in a really useable form? Several suggestions were made: (1) the minutes are lengthy and not written in a readable style; a shorter account of the most pertinent points would be more suitable to send to the parent organizations and to be printed in professional journals; this could be prepared by the secretary. (2) a more free discussion may be promoted by omitting names from the minutes and reports to the parent organizations; (3) whenever possible, the group should complete discussions of topics and make resolutions or definite recommendations to the parent groups; this would arouse their interest more readily than the report of a discussion with no action and would more readily carry out the purpose of the SDJCICP as stated in the constitution.
5. Perhaps the name of the organization should be changed as both the full title and the initials seem unwieldy and are not readily recalled by persons not having been associated with the group.
6. State and local JCICP's were recommended by both the American Nurses Association and the League for Nursing when they withdrew from the National JCICP. An unknown number of local JCICP's exist in the state; there is some reason to believe that many hospitals have such a group but it is known by a different name.
7. Why **two** nursing organizations? The American Nurses' Association, while interested in nursing, is primarily an or-

ganization for **nurses**. The National League for Nursing is primarily an organization for **nursing**. The ANA admits only registered nurses as members; anyone interested in improving nursing may belong to the NLN.

8. Representatives to the SDJCICP should make some effort to find out what their parent organizations would like discussed at meetings.

It was moved and seconded that the Chairman and Secretary should go over the minutes following each meeting and strike out all names. Carried.

It was moved and seconded that letters be sent to each parent organization recommending the establishment of local JCICP's; each parent organization should then be responsible for further notification of their members. Carried.

The next meeting will be held on Tuesday, Sept. 26, 1961. All members should come prepared to participate in discussion of the cost of medical care to the patient.

The meeting was adjourned at 4:10 p.m.

Respectfully submitted,

Helen R. Boyd, R.N.

Secretary

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

WHITE—CLINICAL DISTURBANCES OF RENAL FUNCTION

Diagnosis and treatment measures for kidney disorders

RUBIN—THORACIC DISEASES

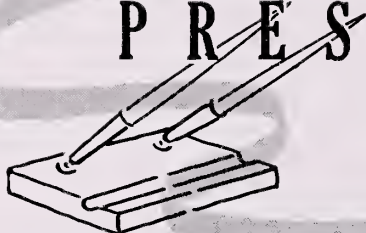
Covers both medical and surgical management

MAYO CLINIC—DIET MANUAL

Recent advances in food, vitamin and dietary practice

Dr. T. Czajkowskyj of Woonsocket has discontinued his practice and returned to Veblen. He had practiced in Woonsocket for three months, arriving there the first of February.

P R E S I D E N T ' S P A G E



Gentlemen:

At this time I wish to express a sincere "thank you" to the members of the Association for bestowing upon me the honor of being president of our organization.

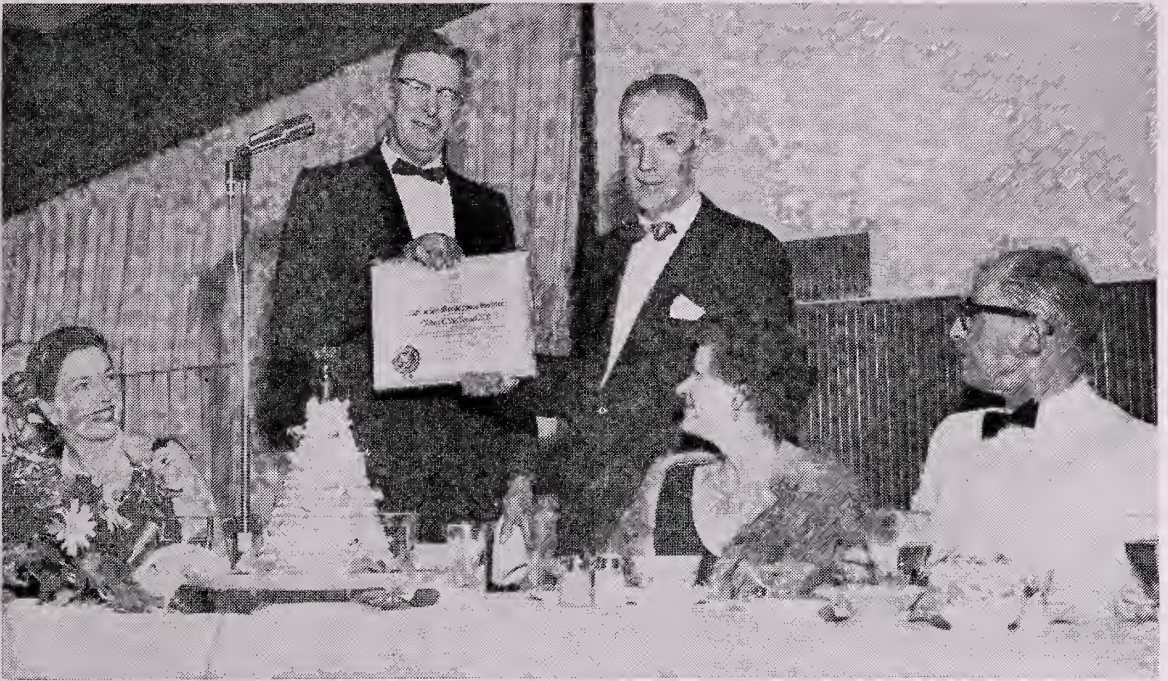
I will do my utmost in carrying on the effective work the State Association is doing. This is particularly true with regard to national legislation. To be effective in its work in this field, the Association must have the cooperation of each and every member.

I will undoubtedly be seeing each of you at district meetings before the Old Age Assistance program begins.

Very sincerely yours,

C. J. McDonald, M.D.

President



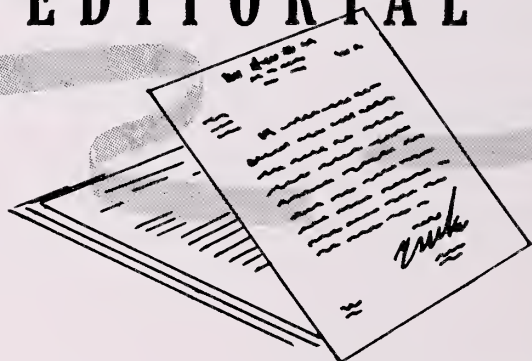
Scene at the 80th Annual Dinner

Governor Archie Gubbrud (left) presents the Certificate for Meritorious Service to Dr. Robert E. Van Demark of Sioux Falls during the dinner held at the Westward Ho Country Club in Sioux Falls. Certificate noted Dr. Van Demark's efforts in rehabilitation of the handicapped.



Dr. C. Rodney Stoltz (left), president of the State Medical Association, carries out one of his final official duties before leaving office as he presents the A. H. Robins Company Community Service Award to Dr. Robert A. Buchanan of Huron.

EDITORIAL PAGE



"AL"

A. J. Lutzer, known to two generations of South Dakota physicians as "Al", passed away Tuesday morning, May 16th, during the 80th Annual meeting of the South Dakota State Medical Association in Sioux Falls.

His many friends in the profession grieve for his family in their loss of a husband and father. Until he missed the 79th session in Aberdeen last year, Al had set a record for consistent convention attendance representing Physicians and Hospitals Supply of Minneapolis.

We are sure that if Al had been endowed with the power to select the place to "leave with his boots on", it would have been just as he died, at the medical association's annual meeting among his doctor friends.

We salute our Al for his long service to the profession, his interest in association activities, his willingness to work with communities in securing physicians and his good-natured banter that livened up our associations with him.

Al, we'll miss you.

PROBLEMS AT SANATOR

(Editor's Note: Dr. I. R. Salladay, Superintendent of the State Tuberculosis Sanatorium at Sanator, filed his resignation on March 19, 1961. He has requested that the letter of resignation be published in full. Our editorial comments follow the text of the letter.)

TO THE SOUTH DAKOTA BOARD OF CHARITIES AND CORRECTIONS:

Because I believe it is impossible to maintain the Sanatorium and give tubercular patients adequate medical care within the limits of the reduced appropriation authorized by the recent state legislature for the fiscal year 1961-63, I hereby resign as superintendent and medical director of Sanator, effective June 30, 1961.

Last December I accepted the Sanator appointment, to superintend the hospital as a place for care and treatment of tubercular patients, which I am willing to continue to do as long as I consider the facilities adequate for efficient treatment. I do not believe those facilities will remain adequate under the appropriation authorized for 1961-63. I decline to participate in efforts to continue operation of the Sanatorium under the drastically reduced appropriation, or to assist in the pro-

cess of Sanator's elimination as the sole non-Federal hospital for treatment of tuberculosis in the state. South Dakota may repudiate its obligation to tubercular patients, but I am unwilling to be a party to such repudiation.

This resignation is in no way intended as reflection on the Board of Charities and Corrections or any member thereof. Neither is it a reflection on the professional and other members of the Sanator staff. I am deeply grateful for the superior co-operation which I have received from that staff. I deplore the developments which prompt this resignation, but I cannot conscientiously participate in the inhumane deprivations, from a medical standpoint, which will unavoidably be inflicted upon the patients as a result of the reduced appropriation. These patients have been cared for exceptionally well, by the most dedicated, sympathetic and efficient hospital staff with which it has been my privilege to work since the beginning of my medical practice in South Dakota thirty-five years ago. Until the effective date of this resignation, I shall give to that staff, and to the Board, the most efficient assistance of which I am capable.

I. R. Salladay, M.D.

There are times when more of the story should be told than what appears in an individual's resignation or even in the news story covering it. Much of the legislative background to the problem has not been reported to the public.

One fact is concurred on by everyone. The patient cost per day at Sanator is excessive for a chronic care institution. This is directly attributable to the low number of patients and reflects in no way upon the previous or present administration. The legislature recognized this and passed a law which would allow the State to farm out or bring in tubercular patients. The hospital association opposed the "farming out" idea because they

felt that tax expenditure for care should be made in the state if facilities could be made available. Many legislators felt that the law could best be implemented by bringing in patients from Wyoming or by taking the overflow from the Federally owned Sioux Sanatorium in Rapid City.

How much investigation was made by the Board of Charities and Corrections into the possibility of either "bringing in" or utilizing general hospital facilities is not known. If investigation was not made, it is not too late to start.

An Associated Press story on Dr. Salladay's resignation quoted him and the medical member of the Board, as well as an M.D. legislator, as agreeing that much of the blame for the low number of patients can be laid on private medical care within the state, claiming some doctors would rather care for tubercular patients at home and thus raise their income. It would be difficult to charge the doctors named in the paper with misrepresentation unless we had all the facts at hand, which we do not have. However, the reasons for treating tubercular patients at home are much more compelling than the few dollars of added income that an individual physician might acquire. First and most obvious is the patient's desire to stay home rather than to be treated in a far off corner of the state. Secondly, the newer methods of treatment are particularly well adapted to home care of the patient; and third, there are actually fewer cases of tuberculosis among the white people than there has been.

A resignation based on the lack of appropriations always forms a sad commentary on our state government. At the same time, the legislature has an obligation to the general public to spend its money economically. It is just to be hoped that the decision of the Board of Charities and Correction is the best decision to have made in view of the facts surrounding the case.

J. C. F.



Here Dr. Stoltz presents an \$8,400.00 check to Dean Walter Hard of the U.S.D. Medical School. Check is gift to the school from the American Medical Education Foundation.



Head table group looks out over the crowd of 300 at annual dinner and dance. From left to right are: Msgr. T. Sullivan, Sioux Falls; Mrs. Aaron Margulis, Sante Fe, New Mexico; Mrs. A. P. Reding and Dr. Reding, Marion; Mrs. Magni Davidson and Dr. Davidson, Brookings; Mrs. C. R. Stoltz and Dr. Stoltz, Watertown; Mrs. C. J. McDonald and Dr. McDonald, Sioux Falls; entertainer Jay Marshall; Mrs. Archie Gubbrud and Governor Gubbrud, Pierre; and Mrs. Paul Hohm, Huron.



ECONOMICS

STATES MOVE TO GIVE DOCTORS EQUAL TAX RIGHTS—TAX-SHELTERED PENSIONS AND PROFIT SHARING ON THE WAY

EDITOR'S NOTE: The recently passed law on medical corporation has caused numerous questions to be directed to the medical association staff. In order to point out the benefit of the act we are reprinting information from the Prentice-Hall "Doctors Tax Report" dated April 3, 1961.

One of the most significant tax stories in years — corporate fringe benefits, including tax-sheltered retirement plans, for self-employed doctors — is unfolding right now. The most amazing aspect of this important tax news is that, although it's going to have a profound effect on the Federal income taxes of many doctors (and, in the long-range picture, probably all self-employed taxpayers), it all comes into play because of State law. Sounds fantastic, doesn't it? Well, in many ways it is. Nevertheless, here's the —

BIG NEWS — In what appears to be a swelling tide across the country, some states, South Dakota and Arkansas leading the way, have already enacted laws which okay the corporate practice of medicine and dentistry! Other states, including Indiana, Minnesota, Connecticut, New York and Iowa, have similar bills in their legislative hoppers. Similar laws for other professional groups should not be too far behind. As a matter of fact, in Connecticut and New York, bills which have been introduced permit the corporate practice of law, accounting, and all other professions. As we go to press, we learn that a bill — permitting "professional associations" — has passed both houses in Georgia.

What does all this mean? Simply this — doctors will be able to band together, form a corporation and, since they'll be employees of

this corporation, qualify themselves for such tax-favored employee benefits as:

- **Tax-sheltered pensions and profit sharing:** Through the corporation, doctors will be able to invest 15% to 25% of their corporate salaries in qualified retirement plans. Since the corporation can deduct these amounts, the investment fund is completely tax free. What's more, the same goes for the —

- **Investment return:** The money earned by the tax-free contributions to the retirement plan, be it pension or profit-sharing, will also grow without tax erosion — a tax-free pyramiding of income. It doesn't take a mathematician to see that the doctors will have more dollars earning more money. Of course, there will eventually be a tax when the doctors withdraw their nest eggs. However, if things are properly arranged, as the law now stands, this will be only —

- **Capital gain:** This, of course, means that the maximum tax bite will be 25%. To qualify, they'll have to draw out the money in a lump sum when they retire. Then, there's this —

ADDED TAX BREAK — There are estate tax savings in addition to the income tax benefits. Thus, if a doctor's interest in a qualified pension or profit-sharing plan is paid in a lump sum to a named beneficiary,

other than his estate, there will be no estate tax on the proceeds.

Sounds good, doesn't it? But it's only the beginning — there are many, many more tax advantages in store for these doctor-employees. For instance, look at —

- **Sick-pay plans:** The corporation can put a "wage continuation" plan into effect. So, if because of sickness or injury, the doctor isn't able to work and his pay is continued — up to a \$100 a week of it can be excluded from taxable income. A substantial tax savings! Another tax cutter is the —

- **Medical reimbursement plan:** This corporation can agree with the doctors to reimburse them for all medical expenses. Although the expenses are deductible by the corporation, the reimbursement is tax free to the doctors.

SPECIAL ANGLE — Assuming that the corporation has 10 or fewer stockholders, there's no reason why it can't elect to bypass the corporate tax under Section 1371 of the tax law — while still retaining all the advantages of a corporation. Under such circumstances, since corporate earnings will be taxed directly to the shareholders instead of to the corporation, a medical reimbursement plan converts partially deductible medical expenses — remember the 3½ rule — into fully deductible business expenses.

But even this isn't all. For example, consider the —

- **\$5,000 death benefit exclusion:** Payments, for instance, to the widow of a deceased doctor-executive employee will be income tax free to her, up to \$5,000. On top of all this, there's also —

- **Group insurance:** The corporation can buy — and pay for — group life insurance on all of its doctors. It can also deduct the cost. More important, the premium payments are not income to the doctors. Under certain circumstances, the insurance per doctor can be as high as \$150,000.

What do you think of the story? Great, isn't it? And it is very significant — make no mistake about that. The states which had the foresight to enact this equalizing legislation have performed a notable service for every doctor in the United States.

Before going into a specific dollar-and-cents breakdown of exactly how much a doctor can gain through a corporation-plus-retirement plan parlay, let's take a glance at —

How It All Came About

To understand how state law can have such

a reverberating effect on Federal income taxes, it's first necessary to understand the never-ending contest of wits — the Revenue Service on one side; the professional man, his accountants and attorneys on the other. For many years now doctors have been seeking equal tax rights: trying to reach the same tax-privileged plateau occupied by other taxpayers. For example, one of the most glaring inequities in the tax law is the denial of pension and profit-sharing plans to the self-employed doctor. These same pension and profit-sharing plans are, of course, permitted for employees, including high-salaried executive employees. In fact, the tax law actually encourages employers to set up plans for their employees.

In many lines of business, becoming an employee presents no real problem for a self-employed owner. He merely incorporates the business and, presto, he's an employee (stockholder-executive). But impeding the doctors was —

A ROADBLOCK — Along with virtually all other professional men, doctors were typically and traditionally forbidden to incorporate by state law. But then, when things looked almost hopeless, along came Dr. Kintner and the —

KINTNER-TYPE ASSOCIATION — What was it? Just this — an unincorporated association that had enough corporate characteristics to be taxed as corporation. Interestingly enough, this was created as a Revenue Service weapon designed to prevent tax avoidance. When Dr. Kintner and his associates turned the tables on the Government — many doctors adopted his approach and numerous clinics suddenly sprouted all over the nation.

However, the race to establish such associations came to a screeching halt when the Revenue Service issued its so-called Kintner Regulations. These, in effect, said that local laws would determine the status of the association for Federal income tax purposes. The result was, for instance, that in a state which had adopted the Uniform Partnership Act, doctors and other professionals had virtually no chance to qualify.

So, with Kintner, to all effects and purposes, dead, this left the Keogh Bill as the doctor's last hope. Introduced again this session — as it has been the preceding eight —

the bill would provide retirement plans for the self-employed. Again, as in the past, prospects for passage aren't too bright. (Of course, the new state law developments may provide just the impetus for passage that Keogh needs.)

So, this was the status when, bursting upon the scene with the impact of a blockbuster, came the startling news that South Dakota and Arkansas had passed laws permitting —

DOCTORS TO INCORPORATE — In other states similar bills are wending their way toward passage.

What it means: Now the wheel has turned full cycle. These corporations will be just that — corporations. Just as the businessman-sole proprietor is allowed to incorporate his business and become an employee — now the doctor (in those states having this permissive legislation) can do the same. In the process, he can pick up all of the other numerous employee advantages. What's more, **SINCE THE REVENUE SERVICE ITSELF HAS SPECIFICALLY STATED THAT IT WILL BE GUIDED BY LOCAL LAW, IT'S DIFFICULT TO SEE JUST HOW IT CAN OB-**

JECT TO GOING ALONG WITH THESE CORPORATIONS.

The Dollars-and-Cents Story

Naturally, every doctor may not be able to take advantage of the chance to go into corporate practice. What's more, not every doctor may want to — but for those who do, the results can be little short of sensational. How sensational? Just take a look at this set of hypothetical —

Facts and figures: Let's say that our principal character is the hypothetical Dr. John Jones. Let's further assume that he lives in South Dakota, is married, is 35 years old, and has a net professional income of \$30,000.
Further assumptions: Dr. Jones has personal deductions and exemptions of \$5,000 to offset against his net professional income. This brings his taxable income to \$25,000. He requires about \$20,000 for his yearly living expenses — anything left he can invest. These figures apply to Dr. Jones in his individual practice.
Assume now that he joins up with two other doctors and forms a corporation. The corporation inaugurates a qualified profit-sharing plan. Now, Dr. Jones will get a \$26,000 salary and a \$3,900 contribution on his behalf to the profit-sharing plan.
Result: He'll wind up with the same amount for his living expenses, but a drastically different long-range picture. Here's a dollar-and-cents comparison:

Individual Practice		Income Deductions	Corporate Practice	
\$30,000	5,000		\$25,000	5,000
	25,000	Taxable Income	21,000	5,660
7,230		Tax		
\$22,770		Net After-tax Income	\$20,340	
\$20,340		Living Expenses	\$20,340	
\$ 2,430		Investment vs. Profit Sharing	\$ 3,900	

Result: Even on a one-year basis, Dr. Jones' corporate practice has a \$1,470 investment edge (\$3,900 against \$2,430) on his individual practice. But that's not even half the story! The big thing is that every dollar his individual investments earn is diminished by a 43%

tax bite — whereas the corporate profit-sharing investment pyramids tax free. To get a really dramatic idea of what this means, let's take a look at things 30 years from now — when Dr. Jones retires. We'll assume a 6% rate of return in both cases.

Individual Practice		Yearly investment at 6% Value of a \$1 Annual Investment at 3½% (net after taxes) for 30 years. Value of a \$1 Annual Investment at 6% for 30 years. 30-year Net Tax After-tax Net	Corporate Practice	
\$ 2,430	x 53.4295		\$ 3,900	x 83.8017
\$129,833			\$326,826	
\$129,833			81,707 (at 25%)	
			\$245,119	

Result: The incorporated Dr. Jones will have a much more comfortable retirement than the unincorporated Dr. Jones — **\$115,286** more comfortable, to be exact. And this doesn't even take into account the numerous

other employee benefits the incorporated Dr. Jones is entitled to. These can, of course, amount to quite a package.

LONG-RANGE IMPACT — If doctors can persuade their legislatures to pass professional corporation acts, there will be next to no need for the Keogh Bill or Kinter-type Associations.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

The difference between being an angel of mercy and a social demon is a matter of perspective.

N. Y. JOURNAL HAS NEW EDITOR

William Hammond, M.D., for the past three years Assistant Editor of the New York State Journal of Medicine, has been named Editor of that publication. He succeeds the late L. D. Redway, M.D., who held the Editor's position for a period of nine years.

The New York Journal of Medicine is the journal of the third largest medical society in the world and has been published since 1901.

* * *

The Sioux Falls District met on May 2nd for its pre-convention business meeting.

NEWS NOTES

Dr. Oscar H. Clark, 87, passed away at Tempe, Arizona on April 30th. Dr. Clark practiced for fifty years at Newell, S. Dak. before his retirement some years ago.

* * *

Willis F. Stanage, M.D., Yankton, attended a post-graduate course in pediatrics at the University of Nebraska College of Medicine in April.

* * *

T. F. Riggs, M.D., has just published a book entitled "A Log Cabin Was Home." The book deals largely with the author's early life in the Dakota Territory, and also accounts on his training as a surgeon in Pierre.

Henry O. Ruud, M.D., formerly of Hot Springs, will open an office in Deadwood. Dr. Ruud has been retired for the past five years and living in Rapid City.

Drs. C. J. McDonald, R. H. Quinn, Mrs. Warren Anderson, John C. Foster and Phyllis Sundstrom met in Jamestown, North Dakota, recently with a delegation from the North Dakota State Medical Association to set up plans for the 1962 Combined Annual Meeting.

* * *

George Whitson, M.D., of Madison, recently attended a three day short course, "Rochester Clinic Review."

* * *

Dr. V. C. Marr, Estelline, South Dakota, attended the Annual Scientific Assembly of American Academy of General Practice at Miami, Florida.

* * *

Dr. Lowell Swisher has become associated with Dr. N. J. Sundet in Kadoka.

R.I.P.S. MEET IN WINNER

The regular monthly meeting of the Rosebud Inter-Professional Society met in Winner on Thursday evening, April 27th. Twenty-six members of the medical, pharmaceutical, dental and veterinary professions were in attendance at the joint meeting. The scientific session featured discussion of anesthesia in maternity cases by Doctors Hayes, Lillard, Studenberg, and Lakstigala.

Charles Johnson of the American Medical Association's Field Service Division spoke to the group on pending legislation.

Officers for the coming year were elected as follows:

President:

Dr. Edwin Sweet

Vice-President:

Dr. Al Edwards

Secretary:

Dr. D. E. Nemer

Treasurer:

Mr. Don Frank

A committee to study medical care for the Indians has been named by the Black Hills District Medical Society.

Dr. John J. Feehan of Rapid City was named Chairman after the Society heard a request by the president of the Black Hills Council of American Indians, that the group support a movement to turn Sioux Sanatorium into a general hospital for Indians. The committee will study various aspects of the Indian health program.

THIRD DISTRICT HEARS HOSEN

Nineteen members of the Third District Medical So-

ciety met in Arlington to hear Dr. Richard Hosen, Sioux Falls, speak on "Routine Bacteriological Studies in Clinic Practice" on April 13th.

Dr. C. Rodney Stoltz, president of the State Association made his official visitation and executive secretary Foster commented on public relations problems.

OTOLARYNGOLOGIC MEET SET FOR CHICAGO

The University of Illinois College of Medicine Department of Otolaryngology will offer an intensive postgraduate basic and clinical program under the direction of Doctor Emanuel M. Skolnik. This Assembly for practicing otolaryngologists offers a compact program of one week of daytime and evening sessions. It is designed to bring to specialists a wide variety of current advances in management, therapy and philosophies. Review of basic morphologic features under the direction of Doctor Maurice F. Snitman and Doctor Frederic J. Pollock is also included, and will feature laboratory demonstrations, dissection and prosection, all augmented by visual aids.

Panel programs have been designed to bring out special features of otologic and reconstructive surgery and tumors of the head and neck. Luncheon chats are an important part of the daily program.

Interested physicians should write direct to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

DISTRICT IX HAS TV SHOW

The Black Hills District Medical Society has established a thirty minute TV Panel show on KOTA - TV on alternate months. The program panel discusses pertinent medical topics and utilizes the services of as many local physicians as possible.

CANCER SOCIETY SCIENTIFIC SESSION GOES TO NEW YORK

The 1961 Scientific Session of the American Cancer Society will be held at the Biltmore Hotel in New York City on October 23 and 24.

Theme of the program will be, "The Physician and the Total Care of the Cancer Patient." Speakers on the two day program will include Dr. I. S. Ravdin of the University of Pennsylvania; Dr. Alton Ochsner of New Orleans; Dr. John Kline, San Francisco; Dr. Owen Wangenstein, University of Minnesota; Dr. Warren Cole, Chicago; Dr. David Karnofsky, New York; Dr. Eugene Pendergrass, University of Pennsylvania; and many others.

Physicians desiring information on the program should direct their inquiries to the Professional Education Section of the American Cancer Society, 521 West 57th Street, New York 19, New York.

NEWS NOTES

The South Dakota Heart Association held its annual meeting in Aberdeen on May 27th. Guest speaker for the public meeting was **Dr. Richard L. Vacco**, who spoke on "Open Heart Surgery."

INDIA DISCUSSED BY YANKTON DOCTOR

Dr. R. Natarajan, psychiatrist at Yankton State Hospital and native of India, was guest speaker recently at the Yankton Kiwanis Club luncheon.

He pointed out that the United States had a great deal to do with India's becoming independent when President Franklin D. Roosevelt said that India had attained political maturity to be independent.

American help in the form of provision of technical assistance in mechanization has resulted in India's being nearly self-sufficient in producing its own food, because of careful use of her natural water power.

Over 130 engineers have been sent to the United States for training in the production of high quality steel.

Dr. Natarajan came to America for three reasons: (1) to see how Americans live; (2) to learn from us and to tell of his country; and (3) so that his children can have an English education.

He declared that India does not want to get into any war, and because of its proximity to Russia and Red China, India must be very careful. He emphasized that the citizens of India are not Communist, and said that even though India has little military strength, he would expect it be on the side of the western democracies in the case of any world conflict.

The Dell Rapids Community Hospital received portraits of **Drs. M. M. Grove, J. B. Eagan, and A. F. Grove**. The portraits were presented by the widow of the late **Dr. A. F. Grove** who died April 1, 1960.

Guest speaker at the luncheon meeting of the Sacred Heart Hospital Auxiliary was **Dr. F. J. Abts** of Yankton. He has had two major voyages as ship's surgeon aboard luxury ocean liners, and a recent trip to Mexico. He spoke to the group about his travels and showed some of his color pictures.



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PHARMACEUTICAL

SECTION

HAROLD S. BAILEY, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota



THE Rx LEGEND*

Caution: Federal Law Prohibits Dispensing Without Prescription

To a pharmacist, these words on a drug package have a deep significance.

They symbolize his responsibilities as a professional man.

They identify drugs that are not **safe** for self-medication and legally may be dispensed only on the prescription of a duly licensed practitioner. The licensed pharmacist is the legal custodian of such drugs.

These words, the Rx Legend, thus join the power of the Federal law with the ethics of the medical and pharmaceutical professions.

Ethics and law require the pharmacist to refuse to dispense a drug when it would endanger the health or safety of the patient.

Knowledge, skill, and ethics have always been required for safe prescribing and dispensing of drugs. But today the need for ethics is greater than ever, because drugs are more potent than ever, and the consequences from misuse of drugs are more serious than ever.

A pharmacist is more than a purveyor of drugs — he is a member of the team of ex-

perts who have been scientifically trained to provide medical care to the people. As a consultant to the prescriber and the custodian of drugs for the community, he is licensed by law to dispense them according to the prescriber's instructions and the requirements of law.

If we did not have the pharmacist, it would be necessary to invent him.

And if we did not have the Rx Legend it would be necessary to invent it.

*Reprinted from FDA Leaflet No. 12, an FDA manual for pharmacists published by the Department of Health, Education and Welfare.

The Durham-Humphrey Amendment

The Federal law referred to in the Rx Legend is the Durham-Humphrey Amendment.¹ It is a part of the Federal Food, Drug, and Cosmetic Act, our national pure food and drug law. This is the law that stands back of the purity, potency, safety, and informative and truthful labeling of all drugs distributed in interstate commerce. Compliance with this law by reputable drug manufacturers makes it possible for the pharmacist to rely upon the safety and efficacy of the products which he

sells or dispenses to the public. The present Federal Food, Drug, and Cosmetic Act was passed in 1938 and the Durham-Humphrey Amendment was passed in 1951.

Named for two pharmacist members of Congress who sponsored it, the Durham-Humphrey Amendment contains a legal definition of the kinds of drugs for human use that may be dispensed by the pharmacist only on the prescription of a "practitioner licensed by law to administer such drugs." Thus it leaves to State **medical** practice laws and boards to determine who is qualified to prescribe drugs, just as State **pharmacy** laws and boards determine who is qualified to dispense drugs.

It is illegal, under the Durham-Humphrey law, to dispense an Rx Legend drug without a prescription or to refill a prescription for an Rx Legend drug without the authorization of the prescriber. Thus the law carries out the principle that the physician should control the amount of medication given to his patient. A prescription, or a refill authorization, may be transmitted by telephone, and such prescriptions and authorization must be reduced promptly to writing and filed by the pharmacist. But certain narcotics are required to be dispensed only on a prescription written by the doctor.

Prescription-restricted drugs are required by the law to be labeled with the Rx Legend, and it is illegal to place this legend on drugs that are not so restricted. A fundamental purpose of Congress in the Durham-Humphrey law was to provide the pharmacist with clear guidance as to which drugs may not be sold without a prescription, and may not be refilled without the prescriber's authorization, as distinguished from those that may be sold to laymen for self-medication.

Kinds of Rx Legend Drugs

To dispense drugs legally, the pharmacist must be guided by the Rx Legend on the label.

But it is worthwhile to know the three categories of prescription drugs defined in the Durham-Humphrey Amendment:

1. Hypnotic or habit-forming drugs that are specifically named in the law, and their derivatives, unless specifically exempted by a regulation.

¹Title 21, U. S. Code, Section 353 (b).

2. A drug which is not safe for self-medication "because of its toxicity or other potentiality for harmful effect, or the method of its use, or the collateral measures necessary to its use."
3. A "new drug" which has not been shown to be safe for use in self-medication, and which, under the terms of an effective new-drug application, is limited to prescription dispensing.

It should be borne in mind that the statutory definitions of prescription drugs apply not only to those which are toxic or habit forming but also to many other drugs which may be unsafe because a layman would not know how to use them properly. Many modern drugs even though "safe" insofar as inherent toxicity is concerned, must be restricted to prescription sale because of the conditions for which they are intended to be used and the diagnostic techniques and collateral therapeutic measures necessary to their use. For example, mephenesin, an antispasmodic, rarely causes side effects, but requires medical supervision for effective use.

In brief, Rx Legend drugs are those that are not safe enough for a layman to use in self-medication. Therefore, the label of such drugs should not and does not contain detailed directions, precautions, etc., that would be needed by a **layman** to use the drug safely and effectively — indeed it would be impossible to provide such information, otherwise the drug would not be restricted to prescription. The physician and the pharmacist, however, must have complete information about such drugs. Therefore, the law requires the manufacturer to furnish them with the information vitally needed for proper use of Rx Legend drugs.

On the other hand, the labeling of a drug which is not restricted to prescription must bear adequate directions for safe and effective use and warnings against misuse that may be needed by a **layman**, and the distributor of an over-the-counter drug is required by law to label it with such information.

Over-the-Counter Drugs

Drugs that may legally be sold over-the-counter must bear a "7-point label":

1. . . . the name of the product
2. . . . the name and address of the manufacturer, packer, or distributor

3. . . . the net contents of the package
4. . . . active ingredients and the quantity of certain ingredients
5. . . . the name of any habit-forming drug contained in the prescription
6. . . . cautions and warnings needed for the protection of the user
7. . . . adequate directions for safe and effective use.

The warnings on such drugs are particularly important. Typical warnings tell:

- . . . how to use a medication safely
"Do not apply to broken skin"
"Do not exceed recommended dosage"
- . . . when not to use it
"Do not drive or operate machinery while taking this medication"
- . . . when to stop taking it
"Discontinue use if rapid pulse, dizziness, or blurring of vision occurs."
- . . . Should I see a doctor?
"If pain persists for more than 10 days or redness is present, or in conditions affecting children under 12 years of age, consult a physician immediately."

A pharmacist must be familiar with the active ingredients and labeling of over-the-counter drugs he sells, as well as the drugs he dispenses on prescription. As the licensed expert on drugs, the pharmacist is professionally competent to answer the questions of his patrons about such drugs, without of course attempting to diagnose or to prescribe.

Any drug that does not bear the Rx Legend can be sold without a prescription. The consumer has the responsibility for reading and heeding the directions and warnings, if any, which appear on the package, but the pharmacist may render a professional service by calling attention to such directions and warnings. Legally, the prescriber need not be consulted about refilling a prescription for a drug that does not carry the Rx Legend. However, in the patient's interest a professional determination on this point must always be made by the pharmacist. A physician may write a prescription for a non-Legend drug with directions for a dosage that is higher than that recognized as safe for unsupervised use. Such a prescription should be handled as though it were for an Rx Legend drug and the prescriber consulted before refilling.

Penalties for Violation

Modern drugs, especially Rx Legend drugs,

are so potent that many of them can cause serious injuries or even death when they are improperly used. Therefore, sooner or later the person who "takes a chance" by selling such drugs illegally is likely to find himself in trouble. Every year hundreds of complaints of drug addiction and other harmful effects from improper use of drugs are investigated by Food and Drug inspectors. Although such injury reports are not usually introduced as evidence they are frequently considered by the judge when sentencing the violator. Heavy fines and prison terms sometimes result.

First offense: Under the law any person who is found guilty of selling Rx Legend drugs without a prescription, or refilling a prescription for such drugs without authorization by the physician, is subject to a maximum penalty of \$1,000 fine and 1 year imprisonment for each separate offense. (Each sale constitutes an offense.)

Second offense: Under the law, the maximum penalty for a second offense (committed after a conviction of a prior offense has become final) is \$10,000 fine and 3 years' imprisonment for each separate offense. (Each sale constitutes an offense.)

The same penalties apply to sales by drug peddlers or prescribers who cause violations by writing fake prescriptions.

Beware of Counterfeit Drugs

The licensed pharmacist has an ethical and legal responsibility to maintain a stock of therapeutically reliable drugs. Only in this way can he dispense the drugs specified by the prescriber. This assurance to doctors and patients can be given only if prescriptions are filled from drugs received by the pharmacist from authentic sources. Drugs should be purchased only in the original, labeled, and sealed manufacturer's packages. Pharmacists should be alert for any unusual packaging or labeling on the part of drug suppliers, and should report to their Board of Pharmacy or the Food and Drug Administration whenever drugs are offered to them on suspicious terms or circumstances.

No reputable person in any business would knowingly attempt to pass a forged check or a counterfeit coin, and traffic in counterfeit drugs is far more reprehensible, since health, even human life may be at stake. A pharmacist involved in such a transaction

may be criminally liable under the law.

What To Tell the Patient—or the Physician

The fact that a physician prescribes a certain amount of a medicine is evidence that this is what he thinks the patient should have. But every pharmacist encounters patients who want to take matters into their own hands, and doctors who are irritated when asked if they wish to approve refills. What should the druggist tell such people, that will be persuasive but not alarming or provoking?

Occasionally a pharmacist may need to explain to a patron why he must have a prescription to obtain an Rx Legend drug, or the doctor's approval for a refill. One way to do this is to show him the Rx Legend itself on some package. Explain that drugs bearing this wording should be used only when prescribed by a physician. "If you need this kind of medicine your doctor will prescribe it for you," is a good approach. Point out that the law is "for your protection."

If the patient is asking for a refill without the doctor's authorization the problem may be what to tell the doctor. Busy physicians are sometimes impatient about refill authorizations. This is wrong. They should remember that when a pharmacist telephones the doctor about a refill he is not only complying with the law but also cooperating professionally in the care of the patient. The good physician wants to know when his patient feels the need for more of the medicine he originally prescribed. He may wish to increase the dose, or cut it down. He may wish to try something else, or to see the patient again before making a decision.

Sometimes a very straightforward approach is best: "Doctor, I want to cooperate with you. Under the law I cannot give Mrs. Jones any more - - - - - unless you approve it. What would you like me to do?"

Your reputation as a reliable pharmacist will be enhanced, rather than impaired, if you take such a position.

Questions and Answers

The remainder of this booklet will discuss questions frequently raised by pharmacists about the requirements of the Durham-Humphrey Amendment. These comments are not to be construed as an interpretation of any State or local pharmacy laws. Comment on these laws should be obtained from the

authorities charged with their enforcement. In particular, some State laws restrict to prescription sale certain drugs that are not required by the Federal law to bear the prescription legend. Such laws may also contain restrictions on the sale of drugs by nonpharmacists. While the Federal law does not deal with the question of who may sell over-the-counter drugs, State pharmacy acts in some cases provide for distribution of such drugs exclusively through pharmacies.

Q. How should the refill record be kept in order to comply with the law?

A. While the Food and Drug Administration has not issued a regulation specifying the form or manner of keeping a refill record, it is important to keep the record in such a way that when a prescription is presented for refilling the pharmacist can readily tell when the prescription was filled or refilled. Since the pharmacist has to look up the original prescription to provide a refill, perhaps the simplest and most satisfactory way to handle the matter is to keep the refill record on the back or front of the original prescription.

It is urgent that an adequate refill record be kept. Failure to keep a refill record is likely to result in serious violations of the law. Also, it is to the pharmacist's advantage to have complete and accurate refill records so that he can, in the event of an investigation of his practices, show from his records a balance of purchases against legal sales, as evidence that he has been complying with the law.

Q. What do I do about refilling a prescription marked "Refill p.r.m.," "Refill ad lib.," or some similar designation?

A. It is questionable whether any such designation that puts no limit on the frequency of refilling, or the length of time that a prescription may be refilled, constitutes a valid authorization for refilling a prescription. The law gives only a duly licensed physician authority to determine how much of a prescription-restricted drug a patient should get, and a physician cannot delegate to someone else authority that he has by virtue of his license.

This kind of refill authorization is to be discouraged; nevertheless it is sometimes used. The best advice to a pharmacist who receives a prescription so marked is that he use care and professional judgment in handling it;

that he refill it only with a frequency consistent with the directions for use, and that he check with the physician after a reasonable time to make certain whether the physician wants the medication continued. If a pharmacist does that, the legal status of the prescription will not be litigated with him.

A direction to the patient to take as needed (Sig: PRN) should not, of course, be confused with the prescriber's authorization to refill. It should be noted, too, that a State law or regulation may deal specifically with this question.

Q. From time to time a particular drug is changed from prescription to over-the-counter status. What should the pharmacist do with any leftover stocks of the drug he may have that still carry the prescription legend?

A. A drug which bears the prescription legend when it should not, is misbranded and is illegal as an article of commerce. Obviously, a pharmacist should not sell an illegal article. He should either (a) return the drug to the manufacturer, (b) use the residual stock only for filling prescriptions, or (c) undertake relabeling to remove the prescription legend and put on the label adequate directions for use and appropriate warnings where needed, etc. Manufacturers frequently supply sticker labels to facilitate such relabeling.

Q. Sometimes a physician asks that the name of a medicine be put on the prescription package that is dispensed to the patient. Is this permissible?

A. Yes. The law of course requires the label of a prescription package to carry certain information (the name and address of the dispenser, the serial number and the date of the prescription or of its filling, the name of the prescriber, and, if stated in the prescription, the name of the patient, and the directions for use and cautionary statements, if any, contained in such prescription) but the law does not forbid the addition of other truthful information. Arguments have been advanced both for and against giving the additional information. Our only comment has been that, if the physician wants the name of the drug put on the prescription package, it is not illegal to put it there.

Q. Can I give a copy of a prescription? Can I fill or refill a copy of a prescription?

A. You can give a copy of a prescription. It should be clearly marked as a copy, and it

has no legal status as a valid prescription that can be filled or refilled by a pharmacist. We recognize that a copy of a prescription may be useful for information purposes. From a strictly legal point of view, we think that is the only purpose a copy of a prescription can serve.

The difficulty faced by a pharmacist who wishes to refill a prescription on the basis of a copy is that no matter what kind of refill instructions are marked on the prescription, the pharmacist who receives the copy has no way of knowing of his own knowledge whether or to what extent that prescription has been refilled by the pharmacy where it was originally filled. Indeed he cannot ascertain of his own knowledge whether copies have been given to other pharmacies also. His only entirely safe course is to phone the prescribing physician; and then, in practical effect, he is getting a new prescription.

Q. Can I fill a prescription written by a prescriber in another State?

A. This situation occasionally arises when a patient has consulted a physician outside the State and has brought a prescription back to his hometown pharmacist for filling. In such cases where a bona fide physician-pharmacist-patient relationship exists usually no question is raised about the technical legality of filling the prescription. Remembering that a professional license in one State does not permit practice in another State, this becomes one of the many areas in which the pharmacist must not only exercise professional judgment but also be certain of the law of his particular State. FDA has questioned the legality of some mailorder businesses that attempt to treat serious disease on a mailorder basis when the physician never sees the patient; but a case involving that type of business has not yet been litigated.

Q. Can I sell over the counter for veterinary use a drug that is labeled for human use with the prescription legend?

A. While it is entirely legal for you to take a product which was intended by its maker for human use and label that product for veterinary use and sell it without prescription (provided, of course, it is a drug which may be legally sold for veterinary use without prescription), you are faced with the problem of supplying complete labeling for the product you sell. Obviously, it requires special

knowledge of veterinary medicine to supply adequate directions for use, appropriate warnings, etc. that should be on the package. If you wish to sell drugs for veterinary use, it is recommended that you purchase such drugs already labeled by the manufacturer for veterinary use with labeling that gives complete directions for such use.

It should be pointed out, also, that certain drugs, even when offered for veterinary use, are restricted to prescription dispensing. If you buy drugs labeled for veterinary use you will find that some bear the legend: "Caution: Federal law restricts this drug to sale by or on the order of a licensed veterinarian, or on his prescription or order."

Q. Sometimes a pharmacist buys an over-the-counter drug in a large package to get a better price. A customer may ask for a smaller quantity. What must the pharmacist put on the label of the repackaged article he sells?

A. The law requires adequate directions for use in the labeling of a drug, and appropriate warnings where these are needed for the protection of the user. It is obvious that the purposes of the law are not served if the package which reaches the consumer does not bear such information.

The law provides that a pharmacist will not be charged with responsibility for having sold a misbranded over-the-counter drug if he sells it under the same labeling that was on the package when he received it. Thus, the only entirely safe course for the pharmacist to follow is to put on the label of the repackaged article all the directions for use, warnings, ingredient statement, and any other information that is required by the law, just as they appeared on the original package.

FDA inspectors have investigated injury cases in which the drug responsible was an over-the-counter product that had been repackaged by the pharmacist and dispensed with incomplete labeling. Investigation has disclosed that a disappointingly high proportion of pharmacists do repackage and sell over-the-counter products, including some relatively potent drugs, with wholly unsatisfactory labeling. This has been called to the attention of the major pharmacy organizations with a request for cooperation in securing voluntary compliance with the law.

Some of the more serious violations of this

kind have been referred to State Boards of Pharmacy, or other State enforcement agencies.

Q. What should a pharmacist do with sample packages that may come into his possession?

A. He can, of course, give them to physicians; or he can keep them in the original manufacturer's package and use them in filling prescriptions.

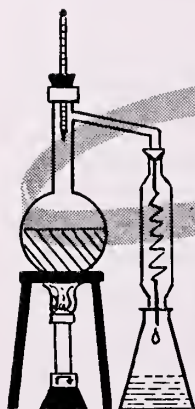
Repackaging should not be undertaken without checking on the legal requirements for repacking the particular drug involved. For example, certifiable antibiotics cannot legally be repackaged without obtaining FDA certification on the repackaged article. Similarly, "new drugs" should not be repackaged without obtaining a supplemental new-drug application. It has been found, too, that in repacking samples, different codes of the same material may be mixed, or code numbers or expiration dates may be lost or inaccurately transposed to the new labels. Too often the label used on the repackaged material is incomplete, making the repackaged material illegal and subject to seizure and condemnation proceedings.

Q. Can I accept and return to stock the unused portion of a prescription that a customer may return with a request for refund?

A. It is a very dangerous practice to accept and return to stock unused portions of prescriptions (or for that matter unused portions of over-the-counter drugs) that are returned by patrons. Many State Boards of Pharmacy have issued regulations specifically forbidding this practice, and we heartily endorse the actions of these boards as being in the interest of public health.

There is no doubt that the pharmacist is legally responsible for any hazards of contamination or adulteration that arise by reason of having mixed returned portions of drugs with shelf stock. Investigations of drug injuries have turned up cases where drugs returned by patrons and subsequently resold by the pharmacist were responsible for the injuries. In one instance there was evidence that the patron had deliberately substituted something else for the product which he had used and returned a dangerous substance to the pharmacist to obtain a refund of money.

(Continued on Page 246)



Advances In Drug Research

A REFERENCE REPORT ON: CANCER

The nation's fight against cancer has received help from such unlikely sources as the wartime sinking of a transport ship, the textile industry and a discovery in a vitamin research laboratory.

Each of these unrelated events which occurred more than a dozen years ago has provided scientists with a clue that was later used to help develop an anticancer drug.

Although surgery and radiation are currently the physician's prime weapons against cancer, researchers have reported promising results against certain cancerous conditions with chemical agents. A representative of the National Cancer Institute recently stated that "drugs are capable of inducing complete remissions for several years in a few types of disseminated cancer." With such encouragement cancer researchers throughout the country are continuing their search.

The scientists received one of their bigger clues on the night of December 2, 1943, when an American transport ship, the John Harvey, was sunk off the coast of Italy. The cargo of the ship included 100 tons of deadly mustard gas. Within minutes its characteristic garlic-like odor blanketed the scene. Some of the men, among those rescued from the water, died later in hospitals, however, under very strange circumstances.

Medical examination of those exposed to

the gas revealed that their white blood cells had been almost completely destroyed. Doctors quickly recognized that this reaction was directly opposite to the effects of leukemia where the white cells grow wildly. Could this deadly killer now be harnessed to help save lives?

Confirmation of the usefulness of this type of chemical, called alkylating agents, came after the war when the Sloan-Kettering Institute determined that they caused temporary remissions in certain forms of cancer. Through this work nitrogen mustard was made available as an anticancer drug. The next step was for scientists to test every compound they could find that was in any way "related" to nitrogen mustard. That's where the textile industry came into the picture.

Triethylene Melamine (TEM) is a chemical cousin of nitrogen mustard which had been used on an experimental basis to shrink rayon. However, in 1949 researchers at American Cyanamid Company found that it was more active than nitrogen mustard against certain cancers and more importantly could be taken as a pill rather than requiring an injection.

Research has since determined that these chemicals are actually poisons which interfere with the division of cancer cells and stop their growth. However, they also attack healthy cells. This has limited their use. Scientists have somewhat overcome this prob-

lem by using perfusion techniques. In this way the affected area is temporarily isolated from the healthy tissue and is flooded with the chemical. Encouraging results have recently been achieved in this fashion with a Lederle drug called Thio-Tepa.

A vitamin research discovery has led to the widespread use of another group of chemicals against cancer. These are called anti-metabolites. Their usefulness stems from the fact that they so resemble vitamin substances that the cancer cell absorbs them but fails to receive nutrition from them. This interferes with the cell's growth.

The concept was developed by researchers at Lederle Laboratories in conjunction with Dr. Sidney Farber of Boston. The Lederle group had just succeeded in synthesizing folic acid, one of the B vitamins, and had given some to Dr. Farber to use in his leukemia studies. The results were disappointing. As a matter of fact, the vitamin seemed to accelerate the disease process. But this prompted the Lederle chemists to try to develop substances which would have precisely the opposite effect of folic acid. The scientists were successful and in 1946 the first of these anti-folics was credited with extending the life of a leukemic child by some two years.

Further modification of these anti-folic compounds led to the development of aminopterin and methotrexate, both of which have found wide use in treating leukemia. In 1958 researchers at the National Cancer Institute reported that methotrexate had apparently suppressed a solid malignant tumor. Through its use, a woman suffering from a rare ovarian cancer had been free from the disease for almost three years, they reported. This was a medical first.

Unfortunately, the anti-metabolites also have drawbacks since they too affect healthy cells as well as the cancerous ones. This has been overcome to some degree by using a special antidote along with the cancer chemical. This technique has achieved some success in treating certain types of inoperable tumors.

While none of these chemical treatments can be called "cures," they do provide hope that better drugs will be found. Thousands of chemical compounds from every conceivable source are being evaluated each year in our nation's laboratories in search of them.

Perhaps the next clue will provide the "lead" the scientists are looking for.

A new anticancer agent from a plant source has been made available to the medical profession recently for treatment of generalized Hodgkin's disease and for choriocarcinoma.

In the United States, there are 10,000 to 15,000 cases of Hodgkin's disease, which attacks the lymph glands, liver, and spleen, and only 700 cases of choriocarcinoma, a tumor of the chorion, a membrane found in the placenta, ovaries, and testes. They represent a small percentage of all cancer cases.

The new drug — introduced under the trademark Velban — is the sulfate salt of vinblastine (VLB), an alkaloid extracted from the periwinkle, a garden shrub. Although it is found in many gardens in this country, the dried plant is imported for processing in large quantities from the Far East.

Velban has been studied in 300 patients having a variety of malignant diseases. But it has been released for treatment only of the two kinds mentioned, according to Eli Lilly and Company, pharmaceutical manufacturers of the drug. The evaluation of results in other cancers has not been completed.

The clinical trial is being expanded, and now includes more than 200 investigators throughout the United States, Canada, Australia, Europe, and Latin America.

The first clinical study of the drug was initiated in March, 1959, at the Indiana University Medical Center, Indianapolis. Other investigations followed immediately at the Ontario Cancer Institute, Princess Margaret Hospital, Toronto; at the Lilly Laboratory for Clinical Research, Marion County General Hospital, Indianapolis; and at the National Cancer Institute, Bethesda, Maryland.

Both the Lilly and Canadian clinicians reported particularly good effects against Hodgkin's disease. It was at the National Cancer Institute that the drug's usefulness in choriocarcinoma was first noted.

The Lilly announcement summarizes the clinical studies of Hodgkin's disease as follows:

1. Significant tumor shrinkage and improvement in general physical condition were obtained in 31 of 34 patients. Twenty-six of these had previously failed to respond to other available

methods of treatment.

2. Not less than 75-percent reduction in tumor masses occurred in at least half of the thirty-four cases.
3. To date, twenty-three patients placed on maintenance doses of Velban have kept their improvement without relapse.
4. Many patients benefited by the drug continue to be maintained in their improvement for periods ranging from several months to more than one year.
5. Several patients have lost, at least for the present, all evidence of Hodgkin's disease.

"There is no evidence, however," the company said, "that in any instance Velban has 'cured' Hodgkin's disease or any other form of human cancer." No cancer is spoken of as possibly cured until there has been complete remission for five years.

Lilly said that at the National Cancer Institute Velban had produced antitumor effects in 7 of 10 patients with choriocarcinoma which failed to respond to other drugs. Five patients obtained clinical remissions of the disease. Four of the remissions have lasted from several months to a year or more.

The activity of periwinkle extracts against cancers in animals was discovered independently by scientists of the Collip Research Laboratories at the University of Western Ontario, London, Ontario, and of the Lilly Research Laboratories.

THE Rx LEGEND

(Continued from Page 243)

Q. How long should a prescription be kept?

A. This is a matter of business and professional judgment for the individual pharmacist. The statute of limitations for violations of the Durham-Humphrey law is 5 years. Therefore, at the end of that time a prescription would have no value as evidence to establish compliance with the Durham-Humphrey law. During that period, of course, a properly kept prescription record is evidence that the pharmacist has complied with the law.

FACTS OF INTEREST TO DRUGGISTS

A number of American pharmaceutical firms have more than 500 skilled persons in their research departments, and one firm has nearly a thousand.



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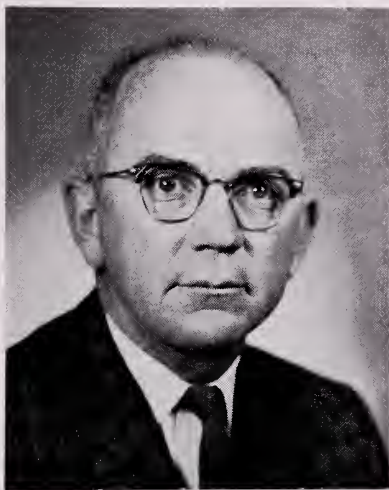
HOME OFFICE

ALGONA, IOWA

Our business has grown because so many people who have had losses have passed the word around as to how well they were treated by Druggists Mutual.

PRESIDENT'S PAGE

Rx



At least once a year and probably several times a year, the pharmacy owner (or assistant) will make a trip or attend meetings essential to the welfare of his business. These might include: the Christmas Show; floor remodeling plan; merchandising techniques and etc. And, I can surmise, several store owners will make these trips many times a year in order to increase their ability to operate their business.

I believe we should reinstate one important trip on our annual calendar that we **had**; but, for a lack of interest **was discontinued** this year. A few of us know this as the Pharmacy Refresher Course or Pharmaceutical Institute held by the Division of Pharmacy professors for the betterment of our profession.

This could be their feelings — it is discouraging to spend valuable time organizing and promoting a two day meeting when the interest by South Dakota pharmacists does not warrant.

I am sure our college professors, who form the basic foundation of our profession, will gladly offer this service to the association members again, if interest could be shown. Is there some way we can guarantee this to them?

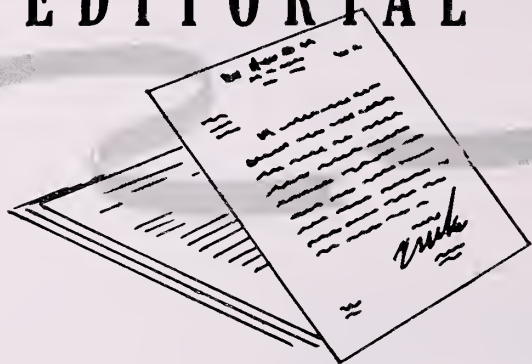
I, for one, would want this program offered again for these reasons:

- To visit our Pharmacy School and the departments to see what is new in our professional education.
- Contacting our future members (students) of the association and knowing their wishes.
- Discussing pharmacy and its problems with other pharmacists again instead of only once a year at the convention.
- Learning and seeing the latest in pharmacy that mail pamphlets can't give us.
- And giving us another opportunity for an association governed by all members instead of the few.

Sincerely,

Albert H. Zarecky

EDITORIAL PAGE



INTRODUCING YOUR NEW EDITOR

I know of no better way to use my last editorial page than to introduce the readers of the Pharmaceutical Section to their new Editor, Dr. Guilford C. Gross. Starting with the July issue, Dr. Gross will have the responsibility for the Pharmacy Section of this Journal.

Dr. Gross was born and raised in Bowdle, South Dakota, coming to South Dakota State College from Bowdle High School in 1935. He graduated with high honor in Pharmacy in 1939. His success as an undergraduate student in pharmacy led to his receiving the Kilmer Award for outstanding undergraduate research in pharmacognosy, and the Lehn and Fink Gold Medal as the highest ranking member of his class.

Following receipt of the Master of Science degree in 1940, he taught for three years as an Instructor in Pharmacy. During World War II he served in the Navy and was discharged with rank of Lieutenant.

From 1946-1950 he was a member of the Pharmacy Division staff and held rank of Assistant Professor of Pharmacology.

In 1950 Dr. Gross was awarded a Fellowship of the American Foundation for Pharmaceutical Education, for advanced study at the University of Florida where he received the Doctor of Philosophy degree in 1952. At that time he returned to the State College campus as Professor of Pharmacology and Head of the Department, a position he now holds.

Guilford Gross is admired by his students

and colleagues for his able and inspiring teaching. In 1957 he was awarded the Outstanding Teaching Award.

He is a registered pharmacist in South Dakota, is a member of the South Dakota and the American Pharmaceutical Associations, the South Dakota Heart Association, Rotary International, and many learned and professional societies, including Kappa Psi, Rho Chi, Phi Kappa Phi, and Phi Sigma.

Dr. Gross is currently a member of the Committee of Revision, United States Pharmacopeia, serving on the subcommittees on Pharmacognosy and Biological Assays and Tests. He is also a member of the Committee on Problems and Plans of the American Association of Colleges of Pharmacy.

I am sure the reader will agree with me that the Pharmaceutical Section of this Journal is being transferred to capable hands.

This has been a very satisfying eight years as your editor. In leaving your service, I would like to express my thanks to the many people who have made this position a rewarding one. The officers of our State Associations have been most cooperative and the guidance received through the years from Dean Floyd LeBlanc of the Division of Pharmacy, South Dakota State College is appreciated.

Pharmacists of South Dakota, remember, the **Journal of Medicine and Pharmacy** is one of the finest examples of interprofessional cooperation in the nation. I know that you will continue to give the Journal and your new Editor the support deserved.

Harold S. Bailey

PHARMACY *News*

PROFESSIONAL STUDENT ORGANIZATIONS ELECT OFFICERS

Final business meetings for the academic year were held by all student professional pharmacy organizations on the State College campus.

Those elected officers of the student branch, American Pharmaceutical Association are: Jon Lee, President; Clifford Van Hove, Vice President; Marian Hansen, Secretary; Robert Wik, Treasurer; Robert Lester, Board of Control and Gary Omodt, Advisor.

Elected Regent of Gamma Kappa Chapter, Kappa Psi Pharmaceutical Fraternity was John Ellgen. Other officers are: Jon Lee, Vice Regent; M. J. Hendrickson, Treasurer; William Husband, Secretary; Richard Severson, Chaplain; Dennis Groteboer, Historian and N. E. Webb, Grand Council Deputy.

Kappa Epsilon Women's Pharmacy Fraternity selected Kay Coffitt as President. Assisting her are: Lola Schuman, Vice President; Marlene Wallace, Secretary-

Treasurer; Sharon Light, Chaplain and Marcia Teig, Historian.

FORTY-NINE GRADUATE IN PHARMACY AT SDSC

Commencement exercises were held Monday, June 5, at South Dakota State College for forty-nine new members of the profession of pharmacy.

The graduates took their written examination from the South Dakota Board of Pharmacy June 6, if they finished their apprentice experience. Those who had not finished the apprentice requirements will take the practical examination at a later date.

Members of the graduating class and their home towns are:


Arns, Irwin Douglas
Sioux Falls, S. Dak.
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Albert Lea, Minn.
Bartholomew, R. Thomas
Lemmon, S. Dak.
Boehm, James J.
Wisconsin Rapids, Wisc.
Christensen, Larry L.
Viborg, S. Dak.

Daganaar, Marvin
Brookings, S. Dak.
Dalke, Jon O.
Freeman, S. Dak.
Eddy, Donald Kenneth
Hastings, Minn.
Elms, Barbara F.
Aberdeen, S. Dak.
Engbretson, Allen D.
Webster, S. Dak.
Evenhuis, Audrey Carol
Hawarden, Iowa
Feldhaus, Annette L. March
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Frick, Cyril Brown
Brookings, S. Dak.
Gamberg, Duane V.
Sioux Falls, S. Dak.
Gillis, David Francis
Faribault, Minn.
Hanson, James G.
Harmony, Minn.
Henrich, Vernon Lee
LeMars, Iowa
Jennings, Roy R.
Yankton, S. Dak.
Johnson, Robert Daniel
Canton, S. Dak.
Kent, Edward Joseph
Jefferson, S. Dak.
Kolpin, Carl W.
Brookings, S. Dak.
Mahannah, Donald W.
Butte, Nebr.
Mahlum, Edward Merle
Brookings, S. Dak.

Mix, Sharon Rae
 Brookings, S. Dak.
 Pohl, Bruce E.
 Worthington, Minn.
 Raburn, Robert Joe
 Brookings, S. Dak.
 Reutzel, Robert J.
 Fairmont, Minn.
 Risch, Keith Henry
 Aberdeen, S. Dak.
 Roll, Dolores Johnson
 Windom, Minn.
 Schlenker, Marlene Hansen
 Aberdeen, S. Dak.
 Schugel, William Louis
 Grand Rapids, Minn.
 Schultz, Arthur William
 Chicago, Ill.
 Schwartzwald, Ronald H.
 Litchfield, Minn.
 Sell, Deanna J.
 Fairfax, Minn.
 Shannon, Larry Clifford
 Brookings, S. Dak.
 Sheets, James Carl
 Elgin, Nebr.
 Springsteen, Lawrence
 Patrick
 Emerald, Wisc.
 Steen, Tyrone LaMar
 Wheaton, Minn.
 Thompson, Robert D.
 Hollandale, Minn.
 Tibbs, James Paul
 Rapid City, S. Dak.
 Tobin, Maurice Vernon
 Sturgis, S. Dak.
 Torguson, Larry Allan
 Glenwood, Minn.
 Wannarka, Gerald L.
 Comfrey, Minn.
 Washburn, Robert Arthur
 Long Prairie, Minn.
 Washburn, William Ivan
 Long Prairie, Minn.
 Watke, Excellda June
 Alvord, Iowa
 Wright, Larry M.
 Rapid City, S. Dak.
 Youells, Richard Marlin
 Watertown, S. Dak.
 Zenk, Bruce C.
 Wilmot, S. Dak.


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Benevolent Fund

W. E. Donahoe, M.D., Chr. (1963) Sioux Falls

John C. Hagin, M.D. (1964) Miller
 F. C. Totten, M.D. (1962) Lemmon

Rheumatic Fever and Heart Disease

John W. Argabrite, M.D., Chr. (1964) Watertown

Willis Stanage, M.D. (1962) Yankton

H. W. Farrell, M.D. (1963) Sioux Falls

SPECIAL COMMITTEES

Radio Broadcasts and Telecasts Committee

William Taylor, M.D., Chr. Aberdeen
 P. S. Nelson, M.D. Watertown
 K. A. Dregseth, M.D. Yankton
 E. H. Peters, M.D. Sioux Falls
 R. A. Boyce, M.D. Rapid City
 F. D. Leigh, M.D. Huron
 S. B. Simon, M.D. Pierre

American Medical

Education Foundation

S. F. Sherrill, M.D., Chr. Belle Fourche
 Vernon Cutshall, M.D. Sioux Falls
 O. J. Mabee, M.D. Mitchell
 H. L. Saylor, Jr., M.D. Huron
 J. H. DeGeest, M.D. Miller

Editorial

R. E. Van Demark, M.D., Chr. Sioux Falls
 B. O. Lindbloom, M.D. Pierre
 J. A. Anderson, M.D. Madison
 W. R. J. Kilpatrick, M.D. Huron
 G. E. Tracy, M.D. Watertown
 H. B. Munson, M.D. Rapid City
 R. F. Thompson, M.D. Yankton
 Hugo Andre, M.D. Vermillion

Medical Licensure

G. R. Bartron, M.D., Chr. Watertown
 J. V. McGreevy, M.D. Sioux Falls
 R. A. Buchanan, M.D. Huron
Veterans Administration & Military Affairs
 R. R. Giebink, M.D., Chr. Sioux Falls
 C. S. Roberts, M.D. Brookings
 Loren Amundson, M.D. Webster
 T. J. Billion, Jr., M.D. Sioux Falls

Spafford Memorial Fund

T. E. Eyres, M.D. Vermillion

Prepayment and Insurance Plans

D. H. Breit, M.D., Chr. Sioux Falls
 H. Russell Brown, M.D. Watertown
 Paul Hohm, M.D. Huron
 E. A. Johnson, M.D. Milbank
 J. T. Elston, M.D. Rapid City
 B. F. King, M.D. Aberdeen

Rural Medical Service

A. P. Peeke, M.D., Chr. Volga
 G. J. Bloemendaal, M.D. Ipswich
 E. F. Kalda, M.D. Platte

Nursing Training

J. A. Muggly, M.D., Chr.	Madison
C. L. Voegle, M.D.	Aberdeen
D. J. Buchanan, M.D.	Huron

Workmen's Compensation

R. R. Giebink, M.D., Chr.	Sioux Falls
H. J. Bartron, M.D.	Watertown
J. N. Berbos, M.D.	Aberdeen

Clinical Pathology Committee

W. A. Geib, M.D., Chr.	Rapid City
James L. Vose, M.D.	Mitchell
A. K. Myrabo, M.D.	Sioux Falls

Rehabilitation Committee

George Smith, M.D., Chr.	Sioux Falls
R. E. Van Demark, M.D.	Sioux Falls
Paul Bunker, M.D.	Aberdeen
D. Hillan, M.D.	Madison
C. F. J. Blunch, M.D.	Rapid City

Press Radio Committee

P. P. Brogdon, M.D., Chr.	Mitchell
Steve Brzica, M.D.	Sioux Falls
E. A. Rudolph, M.D.	Aberdeen

Care of the Indigent

H. P. Adams, M.D., Chr.	Huron
Clifford F. Binder, M.D.	Chamberlain
H. Russell Brown, M.D.	Watertown
R. E. Greenfield, M.D.	Sioux Falls
W. O. Hanson, M.D.	De Smet
E. J. Perry, M.D.	Redfield
R. F. Hubner, M.D.	Yankton
C. A. Johnson, M.D.	Lemmon

Committee on Civil Defense

Courtney Anderson, M.D., Chr.	Canton
Harry Brauer, M.D.	Sisseton
Lothar Kaul, M.D.	Sioux Falls

Committee for Improvement of Patient Care

D. J. Buchanan, M.D., Chr. (1962)	Huron
V. R. Vonburg, M.D. (1963)	Mitchell
M. E. Sanders, M.D. (1963)	Redfield
J. A. Muggly, M.D. (1962)	Madison
C. L. Voegle, M.D. (1964)	Aberdeen
Howard Wold, M.D. (1964)	Madison

Committee on School Health

W. R. Anderson, M.D., Chr.	Sioux Falls
G. L. Tracy, M.D.	Watertown
T. E. Eyres, M.D.	Vermillion

Committee on Budget and Audit

A. P. Reding, M.D., Chr.	Marion
A. K. Myrabo, M.D.	Sioux Falls
R. F. Hubner, M.D.	Yankton

Committee on Aging

Warren Jones, M.D., Chr.	Sioux Falls
C. F. Johnson, M.D.	Yankton
R. J. Bareis, M.D.	Rapid City

Committee on Coroner's Law

W. A. Geib, M.D., Chr.	Rapid City
R. C. Jahraus, M.D.	Pierre
R. H. Hayes, M.D.	Winner

Committee on Traffic Safety

H. L. Saylor, M.D., Chr.	Huron
J. J. Stransky, M.D.	Watertown
R. L. Lillard, M.D.	Winner

Medical - Legal Conference Committee

C. L. Swanson, M.D., Chr.	Pierre
Ted Hohm, M.D.	Huron
D. L. Ensberg, M.D.	Sioux Falls

Liaison Committee with the South Dakota**Pharmaceutical Association**

R. H. Hayes, M.D., Chr.	Winner
V. V. Volin, M.D.	Sioux Falls
Dagfinn Lie, M.D.	Webster

AUDIT AND APPROPRIATIONS**COMMITTEE MEETING**

Saturday, May 13, 1961

Sheraton Cataract Hotel

Sioux Falls, South Dakota

The Audit and Appropriations Committee met in Room 400 at 1:00 P.M. Present were Drs. A. P. Reding, Chairman; C. Rodney Stoltz, A. K. Myrabo, executive secretary John C. Foster, and assistant executive secretary Phyllis Sundstrom.

Dr. Stoltz moved that the Committee accept the 1960-1961 CPA Audit of the South Dakota State Medical Association. Dr. Myrabo seconded the motion and it was carried. The Committee reviewed the budget for 1961-1962. After much discussion the Committee moved to recommend to the Council and House of Delegates that

1. The membership individually and collectively has requested and received additional services of the executive office.
2. Legislative activities at the national level have required additional travel and public relation expenditures on the part of the officers and staff.
3. Inflation has increased the costs of every activity, all materials and services.
4. The Council has frequently authorized necessary additional services by the Association which have increased the overall expenditures.
5. Related agencies have increased their requests for Association services.

It becomes evident that additional revenue must be provided. The Committee on Audit and Appropriations, recognizing that even greater efforts should be made in the area of public relations and public service attempting to stem the tide of socialization and in order to offset a \$7,000.00 deficit, created by such activities, recommends to the Council and House of Delegates that the Association dues be increased \$25.00 per annum.

The Committee desires to bring to the attention of the membership at large that the increased budget is in no way related to the acquiring a state headquarters building. In fact the building is financially self-supporting.

INCOME-ASSOCIATION

State dues	\$42,000.00
Annual meeting	2,650.00
Interest	200.00

Miscellaneous	1,000.00
Salary reimbursement	200.00
Car reimbursement	690.00
Refunds	1,500.00
	\$48,240.00

EXPENSES-ASSOCIATION

Rent	\$ 2,400.00
Salary—Executive Secretary	7,500.00
Salary—Other	8,900.00
Social Security	392.00
Legal & Audit	600.00
Telephone & Telegraph	1,200.00
Office Supplies & Equipment	3,600.00
Dues & Subscriptions	1,400.00
Officers & Councilors Travel	2,500.00
Annual Meeting	5,000.00
Public Relations	1,200.00
Taxes (Personal Property)	120.00
Postage	1,500.00
Unemployment Taxes	40.00
Legislative Expense (Washington Conference)	1,800.00
Benevolent Fund	400.00
Medical School Endowment	200.00
Ladies Auxiliary	600.00
Refunds	300.00
Car Expenses	900.00
Staff Travel	5,000.00
Clinical Pathology Program	1,000.00
Reserve	1,500.00
	\$48,052.00

INCOME-JOURNAL

Advertising	\$36,000.00
Subscriptions	1,200.00
Miscellaneous	600.00
Salary Reimbursements	150.00
	\$37,950.00

EXPENSES-JOURNAL

Salary—Business Manager	\$ 3,600.00
Salary—Editors	1,440.00
Salary, Staff	3,345.00
Social Security	123.00
Legal & Audit	100.00
Rent	1,800.00
Telephone & Telegraph	175.00
Office Supplies & Equipment	25,000.00
Taxes	50.00
Unemployment Taxes	20.00
Postage	300.00
Travel Expenses	1,500.00
	\$37,453.00

INSURANCE-INCOME

Premiums	\$30,000.00
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INSURANCE-EXPENSES

Payments to Insurance Company	\$27,500.00
Postage	40.00
Salary	50.00
Legal & Audit	50.00
Supplies	50.00
	\$27,690.00

AMA-INCOME

Payments	\$10,500.00
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AMA-EXPENSES

Payment to AMA	\$10,500.00
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BUILDING-INCOME

Blue Shield Rent	\$ 3,900.00
Association Rent	2,400.00
Polio Rent	900.00
Journal Rent	1,800.00
Board Rent	300.00
Nurses Rent	900.00
OAA Rent	1,000.00
	\$11,200.00

BUILDING-EXPENSES

Janitor & Repair	\$ 1,000.00
Utilities	1,400.00

Interest	2,500.00
Repayment of Loans	2,500.00
Taxes and Insurance	2,600.00
	\$10,000.00

FIRST COUNCIL MEETING

May 13, 1961

Sheraton Cataract Hotel
Sioux Falls, South Dakota

The meeting was called to order at 3:10 P.M. by Chairman John J. Stransky, M.D. Present for roll call were Drs. C. Rodney Stoltz, C. J. McDonald, Magni Davidson, A. P. Reding, R. H. Hayes, R. A. Buchanan, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, T. H. Sattler, J. D. Bailey, E. P. Sweet, H. E. Lowe, and E. A. Johnson.

Dr. Davidson moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published in the Journal. Dr. Tank seconded the motion and it was carried.

Dr. Reding read the report of the Committee on Budget and Audit and the recommendation of that Committee concerning annual dues. (See Committee minutes above) A discussion on the report followed. Dr. Buchanan moved that the recommendation of the Committee on Budget and Audit be presented to the House of Delegates as a recommendation from the Council. Dr. Sweet seconded the motion and it was carried.

Dr. Reding moved that the Council accept the CPA Audit as presented. Dr. Tank seconded the motion and it was carried.

Mr. Foster explained the proposed general re-opening suggested by the Harold Diers Company for the group loss-of-time insurance program. Dr. Stoltz moved that the Council authorize the suggested mailing to the members of the Association by the Harold Diers Company on the re-opening proposal. Dr. Davidson seconded the motion and it was carried.

Mr. Charles Johnson, Field Representative of the American Medical Association spoke to the Council on the activities of the AMA on the national legislative level concerning medical care for the aged. He suggested 1) that the Association prepare a statement of opinion on the King Bill from the State Association and that we request time at the hearing of the House Ways and Means Committee to present this statement; 2) that contact be made with other state-wide organizations requesting them to prepare statements of opposition to this Bill and present them at the hearings to be held in Washington; 3) that a state-wide letter writing campaign be conducted in opposition to the proposed legislation. He stated that a conference will be held on June 15 and 16, of representatives of the 50 states, appointed by the various governors, to consider the problem of medical care for the aged. He suggested that the Governor be contacted and requested to appoint a physician to be the representative from South Dakota. Dr. Sattler moved that an attempt be made to have a physician appointed to attend this Conference. Dr. Tank seconded the motion and it was carried. Dr. Sattler moved that the Executive Committee determine who would be most acceptable to receive this appointment and to choose physicians who have had a background of work with this problem. Dr. Reding seconded the motion and it was carried. The names of Drs. Warren Jones, R. J. Bareis, Clark Johnson, T. A. Angelos, E. T. Lietzke, and A. A. Lampert were suggested as possibilities to receive this appointment. Dr. Sattler moved that the names of five or six physicians be submitted to the Governor for his consideration. Dr. Reding seconded the motion and it was carried.

Dr. Stoltz moved that the South Dakota State Medical Association prepare a statement and re-

quest time at the hearings to present the statement. Dr. Davidson seconded the motion and it was carried.

Dr. Stransky read the recommendation of the Medical School Affairs Committee concerning a study of medical education and its future in the State. Dr. Sattler moved that such a study be endorsed and that the financing of such a study be subject to future proposals. Dr. Askwig seconded the motion and it was carried.

Mr. Foster announced the results of the balloting for the Distinguished Service Award. The award this year will be presented to Gregg M. Evans, Ph.D. Dr. Hohm moved that the Distinguished Service Award not be awarded at the annual banquet on May 15, but that the incoming president make the presentation at the summer meeting of the Black Hills District Medical Society. Dr. Buchanan seconded the motion and it was carried.

The Council then considered nominations to be submitted to the Governor to replace Dr. D. L. Kegaries on the South Dakota State Board of Medical and Osteopathic Examiners whose term expires June 30. Dr. Stoltz moved that the names of J. W. Donahoe, M.D., Sioux Falls; Gordon Paulson, M.D., Rapid City; and Warren Jones, M.D., Sioux Falls, be submitted to the Governor. Dr. Reding seconded the motion and it was carried.

Mr. Foster explained the letter from an insurance adjusting company concerning fees for medical reports. It was determined by the Council that unless a request comes from the Insurance Adjusters Association requesting this information, no action be taken at this time.

Mr. Foster read the resolution from the Nebraska State Medical Association concerning AMA dues. Dr. Reding moved that the resolution from the Nebraska State Medical Association be tabled. Dr. Stoltz seconded the motion and it was carried.

Mr. Foster explained the request from the National Society for Medical Research for a donation from the State Association. In the past, the Association has donated \$50.00 to this organization. Dr. Stoltz moved that this request be postponed until the second Council meeting. Dr. McDonald seconded the motion and it was carried.

Mr. Foster explained the proposed contract with the Welfare Department on Old Age Assistance and reported on the progress made on setting up this program since the legislature adjourned. He indicated that the Council should determine the dollar coefficient to be used in connection with the Relative Value Study in negotiations with the Welfare Department. A survey of the Districts last fall indicated that the majority of the Districts favor a \$3.50 coefficient across the board. Dr. Sweet moved that the Executive Committee should sit in on the meeting with the Welfare Department to negotiate the figure and that the final decision should be made by the Executive Committee. Dr. Stoltz seconded the motion and it was carried.

Dr. Perry moved that any action on the Crippled Children's Fee Schedule be postponed until the negotiations with the Welfare Department on OAA concerning the Relative Value coefficient are completed. Dr. Hohm seconded the motion and it was carried.

A discussion was held on a letter received from Dr. G. Robert Bartron concerning tissue study controls in small hospitals. Dr. Stoltz moved that this matter be referred to the Committee on Public Health, with the request that they investigate the avenues of approach and report back to the Council at the September meeting. The motion was seconded by Dr. Reding and carried.

Mr. Foster read the recommendations of the Liaison Committee with the South Dakota Pharmaceutical Association to the Council concerning the proposal submitted by the Pharmaceutical Association. Dr. Sattler moved that the report and recommendations of the Liaison Committee be ac-

cepted by the Council and referred to the House of Delegates for consideration. (See First House of Delegates Minutes) Dr. McDonald seconded the motion and it was carried.

Dr. Reding discussed the possibility of combining the Committee on Medical Defense with the Grievance Committee. No action was taken.

Mr. Foster read a letter from the Methodist Mission Council concerning distribution of drug samples for overseas mission work. The Council approved this program.

The meeting adjourned at 5:30 P.M.

SECOND COUNCIL MEETING

May 15, 1961

Westward Ho Country Club
Sioux Falls, South Dakota

The meeting was called to order by C. J. McDonald, M.D., president of the South Dakota State Medical Association at 10:00 P.M.

The following members were present at Roll Call: Drs. C. Rodney Stoltz, C. J. McDonald, Magni Davidson, R. H. Hayes, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, T. H. Sattler, J. T. Elston, E. P. Sweet, and E. A. Johnson.

The first order of business was the election of the Chairman of the Council. Dr. Johnson moved that Dr. Tank be nominated. Dr. Perry seconded the motion. Dr. Stransky moved that nominations cease and that Dr. Tank be elected unanimously. Dr. McDonald seconded the motion and it was carried.

Dr. McDonald moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they will be published in the Journal. Dr. Stransky seconded the motion and it was carried.

Mr. Foster introduced Dr. John T. Elston as the new Councilor from the Black Hills District Medical Society who replaced Dr. J. D. Bailey on the Council.

Dr. Askwig moved that the South Dakota State Medical Association give \$50.00 to the National Society for Medical Research in reply to their request for funds. Dr. Stoltz moved that the motion be amended to read \$75.00. Dr. Davidson seconded the motion as amended and it was carried.

Dr. Sattler moved that Dr. A. P. Reding be re-elected as Secretary Treasurer of the South Dakota State Medical Association for a three year term. Dr. Davidson seconded the nomination. Dr. Perry moved that nominations cease and a unanimous ballot be cast for Dr. Reding. Dr. Stransky seconded the motion and it was carried.

Dr. Stoltz moved that Dr. Robert E. VanDemark be elected to a three year term as Editor of the South Dakota Journal of Medicine and Pharmacy. Dr. Davidson seconded the motion and it was carried.

Mr. Foster requested that he be given another five year contract as Executive Secretary of the Association. Dr. Stransky moved that the contract be drawn for a five year period, with salary stipulations to be made as mutually negotiated between Mr. Foster and the Council. Dr. Davidson seconded the motion and it was carried.

Dr. Perry moved that the Association re-employ Phyllis Sundstrom as Assistant Executive Secretary and that a one year contract be drawn up to accomplish this. Dr. Stoltz seconded the motion and it was carried.

Dr. Hayes moved that the Council thank Dr. Bailey for the work he has done while he has served on the Council. Dr. Stransky seconded the motion and it was carried.

Dr. Davidson moved that the Council express its thanks to Dr. Robert A. Buchanan for his many years of work on the Council and in behalf of the Association. Dr. Sattler seconded the motion and it was carried by acclamation.

The meeting adjourned at 10:45 P.M.

FIRST HOUSE OF DELEGATES MEETING

May 13, 1961

**South Dakota State Medical Association
Sheraton Cataract Hotel
Sioux Falls, South Dakota**

The meeting was called to order at 7:45 by Chairman R. H. Hayes, M.D. The following members were present for Roll Call: C. Rodney Stoltz, M.D.; C. J. McDonald, M.D.; Magni Davidson, M.D.; A. P. Reding, M.D.; R. H. Hayes, M.D.; R. A. Buchanan, M.D.; E. J. Perry, M.D.; J. J. Stransky, M.D.; M. C. Tank, M.D.; L. C. Askwig, M.D.; Paul Hohm, M.D.; T. H. Sattler, M.D.; J. D. Bailey, M.D.; E. P. Sweet, M.D.; H. E. Lowe, M.D.; E. A. Johnson, M.D.; R. Berzins, M.D.; W. R. Taylor, M.D.; B. C. Murdy, M.D.; C. J. Clark, M.D.; T. J. Wrage, M.D.; J. A. Anderson, M.D.; D. L. Scheller, M.D.; R. C. Jahraus, M.D.; C. L. Swanson, M.D.; Roscoe Dean, M.D.; J. H. Lloyd, M.D.; J. Donahoe, M.D.; R. R. Giebink, M.D.; J. V. McGreevy, M.D.; A. K. Myrabo, M.D.; O. P. Erickson, M.D.; E. T. Lietzke, M.D.; D. L. Ensberg, M.D.; R. F. Hubner, M.D.; J. P. Steele, M.D.; R. J. Foley, M.D.; R. J. Bareis, M.D.; R. A. Boyce, M.D.; W. A. Geib, M.D.; T. R. Jacobson, M.D.; S. F. Sherrill, M.D.; and R. W. Roesel, M.D. The Credentials Committee reported all credentials in order and a quorum was declared present.

Dr. Perry moved that the reading of the minutes of the last meeting be dispensed with as they have been published in the Journal. Dr. Hubner seconded the motion and it was carried.

Dr. Steele moved to dispense with the reading of the reports of officers inasmuch as they have been printed in the Delegates Handbook. Dr. Davidson seconded the motion and it was carried.

Mr. Foster read the report of the Committee on Constitution and Bylaws.

**REPORT OF THE COMMITTEE ON
CONSTITUTION AND BYLAWS**

The matter referred to this Committee regarding Article 3, Section 2, Paragraph "C" the Committee feels that the wording of this paragraph as submitted for approval at the 1960 meeting be adopted as such; that no further changes be made.

In regard to the resolution adopted by the Joint Medical Legal Conference of the South Dakota State Medical Association and the South Dakota Bar Association regarding the establishment of a suitable committee to enter into conferences for the purpose of submitting to each association at its next annual meeting such amendments to bylaws for establishment of committees as shall upon the adoption of such resolution by both associations put the joint committees in a position to immediately proceed under the general theories herein expressed.

The Committee feels that a Bylaw change is not at this time necessary, but that the House of Delegates if they so desire by action, may set up a special committee for this purpose. If, at a later time, it might seem advisable to make this a standing committee, the Bylaws can then be changed.

Respectfully submitted,

**COMMITTEE ON CONSTITUTION
AND BYLAWS**

C. Rodney Stoltz, M.D., Chairman

A. K. Myrabo, M.D.

E. J. Perry, M.D.

Dr. Reding moved that the report be referred to the Reference Committee on Special Committees and Miscellaneous Business. The motion was seconded by Dr. Tank and carried.

Dr. Hayes then appointed the Reference Committees as follows: Committee on Credentials: D. L. Ensberg, M.D., Chairman; C. J. Clark, M.D., and R. Berzins, M.D. Committee on Reports of Officers and Councilors: D. L. Scheller, M.D., Chairman; J. V. McGreevy, M.D., and S. F. Sherrill, M.D. Committee on Resolutions and Memorials: E. J. Perry, M.D., Chairman; E. P. Sweet, M.D., and R. R. Giebink, M.D. Committee on Re-

ports of Standing Committees: W. A. Geib, M.D., Chairman; J. P. Steele, M.D., and E. T. Lietzke, M.D. Committee on Reports of Special Committee and Miscellaneous Business: A. K. Myrabo, M.D., Chairman; T. J. Wrage, M.D., and J. D. Bailey, M.D. Nominating Committee: J. W. Donahoe, M.D., Chairman; W. R. Taylor, M.D., J. J. Stransky, M.D., J. A. Anderson, M.D., R. C. Jahraus, M.D., Roscoe Dean, M.D., J. H. Lloyd, Jr., M.D., T. H. Sattler, M.D., R. A. Boyce, M.D., R. W. Roesel, M.D., J. A. Lowe, M.D., and E. A. Johnson, M.D.

Dr. Erickson moved that the matter of re-districting the Association, with the intent of cutting down the number of Districts be referred to the Reference Committee on Special Reports and Miscellaneous Business. Dr. Bailey seconded the motion and it was carried.

Dr. Stoltz moved that Resolution #1, submitted by the Clinical Pathology Committee be referred to the Reference Committee on Special Reports and Miscellaneous Business. Dr. Davidson seconded the motion and it was carried.

RESOLUTION #1

WHEREAS, the South Dakota State Medical Association has supported financially and administratively the continuing education for Medical Technologists and Medical laboratory technicians in South Dakota through a joint sponsorship of workshops at the University of South Dakota School of Medicine, and through a Standards Program, and,

WHEREAS, there is a constant need for medical technologists and medical laboratory technicians to review fundamental technics, to have access to newly developed methodologies, to promptly institute quality control procedures to insure the accuracy of clinical laboratory examinations, and to be stimulated by the knowledge of current basic research, and,

WHEREAS, the present facilities for continuing education for medical technologists and medical laboratory technicians in South Dakota is inadequate, but an adequate potential for such an education exists, and,

WHEREAS, the School of Medical Science and the Extension Division of the State University of South Dakota, the South Dakota Society of Pathologists, and the South Dakota Society of Medical Technologists have shown great interest in the problem of continuing education for Medical Technologists and medical laboratory technicians,

NOW THEREFORE BE IT RESOLVED, that the House of Delegates of the South Dakota State Medical Association encourage financial support in the amount of \$300.00 during the 1961-1962 fiscal year, jointly sponsor with the above named organizations the establishment of an annual Seminar on Clinical Pathology Procedures for Medical Technologists and Medical Laboratory Technicians at the State University of South Dakota, and delegate responsibility to implement the Seminar to the Committee on Clinical Pathology of the South Dakota State Medical Association.

Dr. Stoltz moved that Resolution #2 submitted by the Committee on School Health be referred to the Reference Committee on Special Reports and Miscellaneous Business. The motion was seconded by Dr. Tank and carried.

**RESOLUTION #2
INTRODUCED BY THE COMMITTEE
ON SCHOOL HEALTH**

WHEREAS, There are no set rules and regulations concerning the immunization of students entering state educational institutions, and

WHEREAS, The interests of the health of these students would be best served by the creation of such rule or regulation, and

WHEREAS, It is the duty of the Board of Regents of the State of South Dakota to promulgate whatever rules and regulations are necessary.

THEREFORE BE IT RESOLVED, That the

South Dakota State Medical Association, in annual session assembled, recommend to the Board of Regents that a requirement be set up for all students entering educational institutions of higher learning in the State of South Dakota, to present certification from a physician that the individual has had a smallpox vaccination within the past five years; an up-to-date tetanus and diphtheria immunization, within the past three years; an adequate number of polio shots, and a Mantoux test within the past year, and that if said test was positive, a follow-up chest X-ray.

BE IT FURTHER RESOLVED, That upon adoption, this resolution be forwarded to the Secretary of the Board of Regents, the State Health Officer, and the Governor of the State of South Dakota.

Dr. Hayes read the report and recommendation of the Budget and Audit Committee.

1. The membership individually and collectively has requested and received additional services of the executive office.
2. Legislative activities at the national level have required additional travel and public relation expenditures on the part of the officers and staff.
3. Inflation has increased the costs of every activity, all materials and services.
4. The Council has frequently authorized necessary additional services by the Association which have increased the overall expenditures.
5. Related agencies have increased their requests for Association services.

It becomes evident that additional revenue must be provided. The Committee on Adult and Appropriations, recognizing that even greater efforts should be made in the area of public relations and public service attempting to stem the tide of socialization and in order to offset a \$7,000.00 deficit, created by such activities, recommends to the Council and House of Delegates that the Association dues be increased \$25.00 per annum.

The Committee desires to bring to the attention of the membership at large that the increased budget is in no way related to the acquiring a state headquarters building. In fact the building is financially self-supporting.

A discussion of this report followed. Dr. Wrage moved that the annual dues be raised to \$100.00 per year and that the report of the Budget and Audit Committee, as referred by the Council, be accepted. Dr. Sweet seconded the motion and it was carried.

Dr. Stoltz moved that Resolution #3 submitted by the Liaison Committee with the South Dakota Pharmaceutical Association to the Council and to the House of Delegates be referred to the Reference Committee on Special Reports and Miscellaneous Business. The motion was seconded by Dr. Stransky and carried.

RESOLUTION #3

Statement and recommendation of the Council to the House of Delegates of the South Dakota State Medical Association regarding the attached proposal received from the South Dakota State Pharmaceutical Association entitled **A PROPOSAL TO CORRECT THE UNETHICAL PRACTICE OF "FEE SPLITTING" BETWEEN PHARMACISTS WHO DISPENSE AND PRACTITIONERS WHO PRESCRIBE DRUGS AND MEDICINES.**

The Council has reviewed the proposed regulation and has consulted with members of the Committee on Liaison with the South Dakota State Pharmaceutical Association. It believes that many valid objections could be sustained to some of the material in this proposal. Critical discussion of these objections will be omitted from this report and comment will be made only on basic issues involved.

The Council recognizes that the South Dakota State Pharmaceutical Association or any other group may propose and endorse new rules or regulations and request that they be adopted by a governmental agency such as the South Dakota State Board of Pharmacy. However, it appears that such a Board must act on its own judgment and within its prerogatives and limitations despite advice or pressures from one or several organizations irrespective of the professions or types of business which they may represent. It is understood that regulations adopted by the Board of Pharmacy should be designed basically to safeguard the public health and welfare. It is difficult to see wherein the public is concerned with, or would benefit from, the proposed regulation. Conversely it is equally difficult to understand wherein the public has suffered from the lack of such a regulation.

This proposal was adopted by the State Pharmaceutical Association in June 1960. In December 1960 this proposal was given to our executive secretary John C. Foster in the form of a letter over the signature of Bliss C. Wilson. It was stated that this letter would be mailed to all South Dakota physicians, dentists and veterinarians, but apparently this was not done. The present official notice to our association was received on March 22. Our membership has not had knowledge of the proposal until the time of this meeting.

This Association and the Pharmaceutical Association have a Joint Committee on Liaison. Consideration of this matter by such Joint Committee has not been initiated or sought by the Pharmaceutical Association.

Therefore for the above reasons the Council recommends to the House of Delegates that this proposal be not approved at this time.

It is further recommended, in the event the South Dakota State Pharmaceutical Association desires further consideration of its proposal, that such association initiate joint study of this subject by the Committees on Liaison representing the two associations.

Dr. Hayes read Resolution #4.

RESOLUTION #4

WHEREAS, mentally retarded children are a serious socio-economical problem to the family, community and the state and,

WHEREAS, in a small percentage of mentally defective children an inborn error of amino acid metabolism, phenylpyruvic oligophrenia is the cause and the presence of this disease can be detected by a urine examination of infants from about 4 to 8 weeks of age, and

WHEREAS, an appropriate diet for individuals afflicted with the disease is practicable, and

WHEREAS, the South Dakota Association for Retarded Children, Inc., has expressed an interest in a mass screening of infants to detect phenylketonuria in South Dakota,

NOW THEREFORE BE IT RESOLVED, that the South Dakota State Medical Association encourage The South Dakota Association for Retarded Chil-

dren Inc., to institute such a mass testing program to South Dakota, and

BE IT FURTHER RESOLVED, that the Committee on Mental Health of the South Dakota State Medical Association act as a liaison group on the professional aspect which may arise in a mass survey for phenylketonuria.

Dr. Hohm moved that the resolution be referred to the Reference Committee on Special Reports and Miscellaneous Business. The motion was seconded by Dr. Davidson and carried.

Dr. Hayes then assigned the various reports and resolutions to the appropriate Reference Committees.

The meeting adjourned at 9:00 P.M.

SECOND HOUSE OF DELEGATES MEETING

May 14, 1961

Sheraton Cataract Hotel
Sioux Falls, South Dakota

The meeting was called to order by the Speaker of the House, Dr. Robert H. Hayes, at 2:15 P.M. Mr. Foster took the Roll Call. The following members were present: Drs. C. Rodney Stoltz, C. J. McDonald, Magni Davidson, A. P. Reding, R. H. Hayes, R. A. Buchanan, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, T. H. Sattler, J. D. Bailey, E. P. Sweet, H. E. Lowe, E. A. Johnson, R. Berzins, W. R. Taylor, B. C. Murdy, Abner Willen, T. J. Wrage, J. A. Anderson, Donald Scheller, R. C. Jahraus, C. L. Swanson, Roscoe Dean, J. H. Lloyd, Jr., J. Donahoe, R. R. Giebink, G. M. Jameson, J. V. McGreevy, A. K. Myrabo, E. T. Lietzke, J. P. Steele, R. J. Foley, H. C. Andre, R. J. Bareis, R. A. Boyce, W. A. Geib, T. R. Jacobson, S. F. Sherrill, R. W. Roesel.

Dr. G. M. Jameson read the Report of the Committee on Credentials.

REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS

The Credentials of the Delegates to the South Dakota State Medical Association were checked and the following delegates, alternate delegates, officers and councilors were present:

Drs. C. R. Stoltz, C. J. McDonald, Magni Davidson, A. P. Reding, R. H. Hayes, R. A. Buchanan, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, T. H. Sattler, J. D. Bailey, E. P. Sweet, H. E. Lowe, E. A. Johnson, R. Berzins, W. R. Taylor, B. C. Murdy, C. J. Clark, T. J. Wrage, R. C. Jahraus, C. L. Swanson, Roscoe Dean, J. H. Lloyd, Jr., J. Donahoe, R. R. Giebink, D. L. Ensberg, J. V. McGreevy, A. K. Myrabo, O. P. Erickson, E. T. Lietzke, R. F. Hubner, J. P. Steele, R. J. Foley, R. J. Bareis, R. A. Boyce, W. A. Geib, T. R. Jacobson, S. F. Sherrill, R. W. Roesel, J. A. Anderson, and D. L. Scheller.

A quorum was present for the meeting of the House of Delegates and the Credentials of those in attendance were in order.

Total registration for the convention was 426, including 226 physicians, 30 guests, 67 exhibitors and 103 Auxiliary members.

Respectfully submitted,
REFERENCE COMMITTEE ON
CREDENTIALS

D. L. Ensberg, M.D., Chr.

C. J. Clark, M.D.

R. Berzins, M.D.

Dr. Jameson moved the adoption of the report. Dr. McDonald seconded the motion and it was carried.

Dr. Scheller read the report of the Committee on Reports of Officers and Councilors.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS

Our committee reviewed the Reports of the Officers and the Councilors. The committee moved that the report of the President be accepted and thank him for all the work he has done. It was moved that the reports of the President-Elect, Vice President, and Secretary Treasurer be accepted.

It was moved that the report of the Delegate to AMA be accepted and that Dr. Lampert be thanked for all his work. It was moved that the report of the Alternate Delegate be accepted and we extend our thanks to Dr. Reding for filling in for Dr. Lampert when he was unable to attend the 109th Annual Meeting of the AMA in Miami Beach, Florida, June 13-17, 1960.

It was moved that the report of the Speaker of the House be accepted. It was moved that the report of the executive secretary be accepted and we extend thanks to him for all of his fine work.

With the above motions, it is recommended that the Reports of Officers and Councilors be accepted.

I move the adoption of this report.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS
OF OFFICERS AND COUNCILORS
Donald Scheller, M.D., Chr.
S. F. Sherrill, M.D.
John McGreevy, M.D.

Dr. Scheller moved the adoption of the report. Dr. McDonald seconded the motion and it was carried.

Dr. Perry read the report of the Reference Committee on Resolutions and Memorials.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

WHEREAS, the Sioux Falls District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 80th Anniversary.

BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians in Sioux Falls and their wives.

WHEREAS, the management of the Sheraton Carpenter Hotel and the Sheraton Cataract Hotel have been so cooperative in providing facilities for the success of the 80th Anniversary meeting of the South Dakota State Medical Association.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Sheraton Carpenter Hotel and the Sheraton Cataract Hotel.

WHEREAS, the Chamber of Commerce has provided excellent service in making it possible for the success of the working arrangements.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Sioux Falls Chamber of Commerce.

WHEREAS, the Sioux Falls Argus-Leader and Radio Stations KSOO, KELO, KIHQ and KISD have been most cooperative in presenting the public news of the 80th annual meeting of the South Dakota State Medical Association.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Sioux Falls Argus-Leader and radio stations KSOO, KELO, KIHQ and KISD.

WHEREAS, The American Legion Club of Sioux Falls, has provided facilities for the Stag Party and contributed much to the success of the meeting and entertainment.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the American Legion Club of Sioux Falls.

WHEREAS, the Sioux Falls Country Clubs, Minnehaha, Cactus Heights and Westward Ho, have provided facilities for golf and the banquet and contributed much to the success of the meeting and entertainment.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Minnehaha, Cactus Heights, and Westward Ho Country Clubs.

WHEREAS, the Office Staff of the South Dakota State Medical Association has extended unlimited help to this Committee and meeting success.

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Office Staff.

Respectfully submitted,
**COMMITTEE ON RESOLUTIONS AND
 MEMORIALS**
 E. J. Perry, M.D., Chr.
 E. P. Sweet, M.D.
 R. R. Giebink, M.D.

Dr. Perry moved the adoption of the report. Dr. McDonald seconded the motion and it was carried.
 Dr. Geib read the Report of the Reference Committee on Standing Committees.

**REPORT OF THE REFERENCE COMMITTEE
 ON STANDING COMMITTEES**

This Reference Committee has reviewed the standing committee reports and has also interested itself in the reports of the special committees; and notes the overlapping in committee functions, which is wasteful in man hours of work, possible loss of leadership and possible conflicts of interest of various committees. Your reference committee suggests that this reference committee make a study of the functions and activities of all standing committees, and make a report to the council, in January. The committee notes with regret that no members of the Association appeared to comment concerning the various reports of standing committees which were reviewed.

Committee on Scientific Work
 The Reference Committee compliments the Committee on Scientific Work for the excellent, well balanced scientific program for the 1961 meeting.

I move the adoption of this portion of the report.

Committee on Legislation
 The Committee on Legislation is to be commended for its excellent record during the past legislative session.

I move the adoption of this portion of the report.

Committee on Publications
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Medical Defense
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Medical School Affairs, Medical Education and Hospitals

Your Reference Committee is impressed by the increasing respect, prestige, and scientific attainments with which the Medical School is held by physicians in South Dakota and requests that the House of Delegates of the South Dakota State Medical Association express their confidence and admiration for the guidance Dean Hard has demonstrated in the conduct of Medical School affairs. The Reference Committee recommends the acceptance of the report on Medical School affairs, Medical Education and Hospitals. I move the adoption of this portion of the report.

Committee on Medical Economics
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Necrology
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Public Health
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Cancer
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Maternal and Child Welfare
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Executive Committee
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Report of the Grievance Committee
 Your Reference Committee believes that the Grievance Committee should be commended for their efforts and astute judgment in handling the difficult problems which have been presented to them during the past year.

I move the adoption of this portion of the report.

Committee on Mental Health
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Benevolent Funds
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Rheumatic Fever and Heart Disease
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Diabetes
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

Committee on Tuberculosis
 The Reference Committee recommends the acceptance of this report.

I move the adoption of this portion of the report.

I move that the report of the Reference Committee on Standing Committees be adopted as a whole.

Respectfully submitted,
 W. A. Geib, Chr.
 E. T. Lietzke
 J. P. Steele

Dr. Geib moved the adoption of the report as a whole. Dr. McDonald seconded the motion and it was carried.

Dr. Myrabo read the Report of the Reference Committee on Special Committees and Miscellaneous Business.

**REPORT OF THE REFERENCE COMMITTEE
 ON SPECIAL COMMITTEES AND
 MISCELLANEOUS BUSINESS**

The Reference Committee has read the report of the Committee on Radio Broadcasts and Telecasts. We recommend the acceptance of this report.

The Reference Committee has read the report of the Editorial Committee. We recommend the acceptance of this report.

The Reference Committee has read the report of the Committee on Medical Licensure. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Veterans Administration and Military Affairs. We recommend the acceptance of this report.

The Reference Committee has read the report of the Spafford Memorial Fund Committee. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Prepayment and Insurance Plans. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Rural Medical Service. We

recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Nursing Training. We recommend the acceptance of this report.

The Reference Committee has read the report of the Committee on Clinical Pathology. We recommend the acceptance of this report.

The Reference Committee has read the report of the Committee on Rehabilitation. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Civil Defense. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee for Improvement of the Care of the Patient. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on School Health. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Budget and Audit. We recommend the acceptance of this report.

The Reference Committee has read the report of the Committee on Aging. We recommend the acceptance of this report.

The Reference Committee has read the report of the Coroner's Law Committee. We recommend the acceptance of this report.

The Reference Committee has read the report of the Committee on Traffic Safety. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on the Medical Legal Conference. We recommend the acceptance of this report.

The Reference Committee has read the report of the Liaison Committee with the South Dakota Pharmaceutical Association. We recommend the acceptance of this report.

The Reference Committee has read the report of the Press Radio Committee. We recommend the adoption of this report.

The Reference Committee has read the report of the AMEF Committee. We recommend the adoption of this report.

The Reference Committee has read the report of the Committee on Indigent Care. It is the opinion of the Reference Committee that the Committee on Indigent Care be commended for the prodigious task which they have undertaken. We recommend the acceptance of their report with the recommendation that the Council be directed to establish a State review committee and that District, area, and local review committees be established and encourage physicians to participate in the OAA Medical Care Program.

The Reference Committee has read the report of the Committee on Workmens Compensation. The Committee recommends the acceptance of this report.

The Reference Committee has read the report of the Committee on Constitution and Bylaws. The Committee recommends the acceptance of the report and further recommends that the House of Delegates direct the Council to set up a special committee to act as a medical expert panel in conjunction with the South Dakota Bar Association.

The Reference Committee has read Resolution #1 and recommends the adoption of this resolution as submitted by the Committee on Clinical Pathology.

The Reference Committee has read Resolution #2 and recommends the adoption of this resolution as submitted by the Committee on School Health.

The Reference Committee has read Resolution #3 submitted by the Council to the House of Delegates concerning the proposal of the South Dakota State Pharmaceutical Association. In a study made of the proposal submitted by the South Dakota State Pharmaceutical Association, inasmuch

as a joint study has not been made, it is the feeling of this Committee cognizant of the Council's action and recommendation, that the proposal be not approved at this time. It is further recommended as the Council deems advisable, in the event the South Dakota State Pharmaceutical Association desires further consideration of its proposal, that such Association initiate a joint study of this subject by the Committees on Liaison representing the two Associations. Furthermore, it is recommended that the South Dakota State Pharmaceutical Association be advised of this action.

The Reference Committee has read Resolution #4 concerning mentally retarded children. The Committee recommends the adoption of this resolution.

The Reference Committee has considered the question of re-districting the South Dakota State Medical Association. The Committee recommends that the matter of re-districting South Dakota, as it entails considerable study and negotiation, and since the Council is comprised of representatives of each medical district, that this matter be referred to the Council for study as they desire, and that the Council report back to the House of Delegates at the next annual meeting. I move the adoption of this report in its entirety.

Respectfully submitted,
REFERENCE COMMITTEE ON SPECIAL
COMMITTEES AND MISCELLANEOUS
BUSINESS

A. K. Myrabo, M.D., Chr.

T. Wrage, M.D.

J. D. Bailey, M.D.

Dr. Myrabo moved the adoption of the report in its entirety. Dr. McDonald seconded the motion and it was carried.

Dr. Jack Donahoe read the report of the Nominating Committee.

REPORT OF THE COMMITTEE ON NOMINATIONS

The Nominating Committee presents the following slate of candidates:

1. President—C. J. McDonald, M.D.
2. President-Elect—Magni Davidson, M.D.
3. Vice President—R. H. Hayes, M.D.
4. Speaker of the House—C. Rodney Stoltz, M.D.
5. Councilor from the 9th District—J. T. Elston, M.D.
6. Councilor from the 10th District—E. P. Sweet, M.D.
7. Councilor from the 11th District—Harold Lowe, M.D.
8. Councilor from the 12th District—E. A. Johnson, M.D.
9. Meeting Place for 1954—The Committee reaffirms the 1960 action of the House of Delegates in setting the 1963 meeting at Yankton, and the 1964 meeting at Watertown. It was suggested by the Committee that, when possible, the annual meeting be held during the first week in June, but this should not be absolutely binding.

Respectfully submitted,
COMMITTEE ON NOMINATIONS

J. W. Donahoe, M.D., Chr.

W. R. Taylor, M.D.

J. J. Stransky, M.D.

J. A. Anderson, M.D.

R. C. Jahraus, M.D.

Roscoe Dean, M.D.

J. H. Lloyd, Jr., M.D.

T. H. Sattler, M.D.

R. A. Boyce, M.D.

R. W. Roesel, M.D.

H. E. Lowe, M.D.

E. A. Johnson, M.D.

Dr. Donahoe moved the adoption of the report. Dr. Lloyd seconded the motion. Dr. Perry moved that nominations be closed. Dr. Reding seconded the motion and a unanimous ballot was cast for the officers named in the report.

Dr. Hayes then administered the Oath of Office to C. J. McDonald, M.D. as president of the South Dakota State Medical Association.

PRESIDENTIAL OATH OF OFFICE

I solemnly swear that I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans.

I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

Mr. Foster made some announcements concerning the scientific sessions to be conducted on Monday and Tuesday.

The meeting adjourned at 3:00 P.M.

REPORTS OF OFFICERS AND COUNCILORS AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE PRESIDENT

A report on my activities as your president is best covered, I believe, with a chronological listing of meetings and official appearances:

May 25—Attended the meeting of the Minnesota State Medical Association as a guest at the annual banquet.

June 14-18—A.M.A. meeting in Miami Beach, Florida. Attended Conference for State Officers and Presidents. Attended House of Delegates meetings.

August 9—Black Hills District meeting. Fish fry at Spearfish. A distinct privilege to hear and visit with Dr. Sheean of Edinborough, Scotland, about his famous "Sheean's Syndrome."

August 18—Pierre District meeting.

August 19—Mobridge District meeting.

August 21—Trip to Lemmon to attend the 50-year celebration for Dr. Totten. Presented him with his 50-year pin.

August 27—Speaker at banquet of the state convention of the State Association of Medical Assistants.

September 1-2—Attended A.M.A. Public Relations Institute. This is an excellent annual meeting, and I believe it would be wise for every president to attend.

September 6—Watertown District meeting.

September 24-25—Medical-Legal Conference and Council meeting in Sioux Falls.

October 11-12—Appeared on panel and attended banquet during state convention of the State Nurses Association in Watertown.

October 13—Rosebud District meeting at Win-
ner.

October 18—Whetstone Valley District meeting at Sisseton.

November 5-6—Attended North Central Medical Conference, Minneapolis.

November 19—Meeting of the Executive Committee in Sioux Falls.

December 3—Meeting in Sioux Falls with Governor-Elect Gubbrud regarding legislation for implementing Old Age Health Care.

December 8—Huron District Meeting.

December 14—Gave reception for Congressman Walter Judd of Minnesota. An opportunity to discuss medical care for aged.

January 15—Council meeting, Huron.

February 15—Meeting in Watertown with Charles Johnson, A.M.A. Field Representative, regarding King-Anderson legislation. Local society secretary and state legislative chairman also attended.

February 20-22—Attended legislative sessions, Pierre.

March 18-19—A.M.A. Legislative Conference, Chicago.

March 25—Attended and spoke at Annual Medical School Dinner-Dance, Vermillion.

April 4—Spoke to Watertown Ministerial Association on Medical Care for the Aging.

April 4—Sioux Falls District meeting.

April 5—Aberdeen District meeting.

April 13—Brookings-Madison District meeting at Arlington.

From this review it can be seen that I have been able to visit all of the districts except the Yankton District, which meeting conflicted with the Arlington meeting. (I still may be able to get this visit made.)

I should like to recommend that the president be sent to the A.M.A. Public Relations Institute, held each fall in Chicago. I believe he would get more out of this meeting than any of those which the A.M.A. holds.

It has been a privilege to serve as your president this year, and I appreciate the honor you have given me. Thank you for your considerations and cooperation, and for your help with our projects during the year. I am indebted to the staff at Headquarters, and especially to John Foster, for help with my duties this year.

Respectfully submitted,
C. Rodney Stoltz, M.D.
President

The Reference Committee recommends the acceptance of this report and wishes to thank the president for all the work he has done.

REPORT OF THE PRESIDENT-ELECT

The President-Elect has attended all of the meetings of the Council and Executive Committee during the past year. In addition to attending these meetings, the President-Elect has carried out all other duties assigned to that office.

Respectfully submitted,
C. J. McDonald, M.D.
President-Elect

The Reference Committee recommends the acceptance of this report.

REPORT OF THE VICE PRESIDENT

The Vice President of the South Dakota State Medical Association attended all meetings of the Council and the Executive Committee during the past year. In addition, I carried out all other duties assigned to this office.

Respectfully submitted,
Magni Davidson, M.D.
Vice President

The Reference Committee recommends the acceptance of this report.

REPORT OF THE SECRETARY-TREASURER

As your officer, I have attended all Executive and Council meetings during the year. The duties of my office were carried out with our able and competent Executive Secretary, John C. Foster, Assistant Executive Secretary, Phyllis Sundstrom, and the entire headquarters staff.

Respectfully submitted,
A. P. Reding, M.D.
Secretary-Treasurer

The Reference Committee recommends the acceptance of this report.

REPORT OF THE DELEGATE TO THE AMA

Your AMA delegate was unable to attend the

annual session of the AMA in June of 1960, due to plane service. Dr. A. P. Reding of Marion took over as your delegate and did a very excellent job.

I attended the Interim Session held in Washington, D. C., in December. Reports of the two AMA meetings mentioned above have been detailed in the South Dakota Journal of Medicine for the months of July, 1960, and January, 1961.

I have resigned my position as AMA delegate effective at this time and wish to express to the members of the Association my sincere appreciation for their confidence in me. I have enjoyed being your AMA delegate, but find that the demands on my time are such that I must pay more attention to my practice and family.

Respectfully submitted,
A. A. Lampert, M.D.
AMA Delegate

The Reference Committee recommends the acceptance of this report and wishes to thank Dr. Lampert for all of his work.

REPORT OF THE ALTERNATE DELEGATE TO THE AMA

It was my privilege as your Alternate Delegate, to attend the 109th Annual Meeting of the AMA in Miami Beach, Florida, June 13-17, 1960. Due to the airline strike, your Delegate, A. A. Lampert, M.D., was unable to get to Miami Beach in time, and I was made official Delegate. I can assure you that it was a task to try to "sit in" for your most able delegate, Art Lampert.

The proceedings of the House of Delegates were published in detail in the June 27th issue of the AMA news, also published in the AMA Journal, and the South Dakota Journal of Medicine and Pharmacy.

As your Alternate Delegate, I attended the Fourteenth Clinical Meeting in Washington, D. C., on November 28th to December 1st, 1960. A few of the important subjects brought before the House of Delegates were: Scholarships and loan program for medical students, the status of foreign medical school graduates, an AMA membership dues increase, the expansion of voluntary health insurance, and health care for the aged.

Since these proceedings were published in the AMA News, the AMA Journal, and the South Dakota Journal of Medicine and Pharmacy, no further report at this time would be necessary.

I think it is fitting and proper in this report to convey to the membership of our Association what important assistance your delegate, A. A. Lampert, gave to the members of the South Dakota Legislature during this past session in planning the OAA and MAA programs for the care of the Aged. I know that our modest delegate, Art, would not expect any praise but would say, — "It was part of my job!"

May I express my appreciation to the South Dakota State Medical Association for allowing me to serve as your Alternate Delegate at these meetings.

Respectfully submitted,
A. P. Reding, M.D.
Alternate Delegate to the AMA

The Reference Committee recommends the acceptance of this report and we wish to extend our thanks to Dr. Reding for filling in for Dr. Lampert when he was unable to attend the 109th Annual Meeting of the AMA in Miami, Beach, Florida, June 13-17, 1960.

REPORT OF SPEAKER OF THE HOUSE

The Speaker attended all meetings of the Council during the year. A letter was sent to all delegate members of the House of Delegates, encouraging them to attend the annual meeting in May in Sioux Falls, South Dakota, and also outlining their duties as delegates.

Respectfully submitted,
R. H. Hayes, M.D.
Speaker of the House

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE SECRETARY

Each year your executive secretary is inclined to state that the current fiscal year has been the busiest of his many years with the Association. Actually, time spent on activities that have become routine has decreased, while new activities have come to the forefront.

Much of the credit for the smooth operation of the executive office is due to the proficiency of the employees who have been with the Association long enough to carry out their duties with a minimum of supervision. Miss Phyllis Sundstrom, an employee since 1952, was appointed assistant executive-secretary at the last annual meeting and has completed her first year in that capacity. The creation of this position has relieved the executive secretary of many of the duties of handling finances, purchasing, planning for the annual meeting, as well as supervision of personnel and the operation of the new building.

Part of the travel performed by Association staff has been accomplished by Miss Sundstrom, who attended a total of 40 meetings during the year.

Public Relations

Most of the public relations program this year has been aimed at educating the profession and the public on the various facets of medical care for the aged. In addition to the distribution of pamphlets and other informational materials, the executive secretary appeared at aging conferences in Huron, Aberdeen, and Pierre, and spoke to the District Nine Nurses Association on the subject. Other services on aging included speaking to the Greater South Dakota Association and meeting with interested groups totaling 23 such sessions.

The executive secretary spoke to 19 various groups on safety and other subjects, totaling 2,077 persons.

One television appearance was made after the AMA annual session in Miami Beach to form a report to the public on that meeting. This was presented over KELO — Sioux Falls; KDLO — Garden City, and KPLO — Reliance.

One educational brochure on poisons was printed and distribution made through the Safety Council.

Headquarters Building

We moved into the new headquarters building on July 15, 1960. In addition to housing the basic association operation, space is used by the State Board of Medical and Osteopathic Examiners, the Journal, Blue Shield, the National Foundation, and the State Nurses Association.

We have planted shrubbery and sodded the lawn and the building is now in good shape. Financially, we fell somewhat short of our goal, but the building income is helping to meet some of the obligations. We have requested exemption from real property taxes because of our non-profit status which would allow us, if granted, to have approximately \$2,500.00 available each year for repayment of loans.

All interest payments are current, but there is still in excess of \$3,500.00 in uncollected pledges.

Travel

Travel on the part of the executive secretary and some of the staff members increases each year. During the fiscal year 36,000 miles were put on the speedometer of the Association's car and another 20,000 miles was completed by air transportation. This travel is not done solely for the Association, but for Blue Shield and the Board of Medical Examiners as well.

Liaison with Other Groups

The executive secretary represented the Association on the Board of the Sioux Falls Safety Council; the Board of the South Dakota Hospital and Home Association; Advisory Committee of the

St. Mary's Hospital (Pierre), LPN School; Advisory Committee of the Washington High School (Sioux Falls) LPN Course; membership in the South Dakota Hospital Association; ex-officio membership in the South Dakota Joint Commission for Improvement of Patient Care; Civil Defense; State Department of Health, and others. These liaison duties entailed attendance at 23 meetings during the year.

Blue Shield

Blue Shield continued its growth of the past four years. Currently there are 14,966 contracts in force covering 41,105 people and a total premium income for the past twelve months of \$435,000.00. As executive director of Blue Shield, it was necessary for the executive secretary to spend much time on problems of administration, attending Blue Shield meetings, both national and local (17 of them) and preparing the Federal Employees Health Plan.

Council, House, and Committees

The executive secretary of the Association has worked closely with the official bodies of the Association, various committees, and the District Societies. He attended 18 District meetings, 27 committee meetings, and 8 Council and House of Delegates meetings, a total of 53 meetings.

Medical Journal

The executive secretary functions as the business manager of the Journal and is responsible for its publication and financing.

Mrs. Patricia Saunders handles the duties of assistant editor, doing the layout work for each edition, dealing with the printer, authors, and advertising agencies.

Advertising income is down because of unproved attacks on pharmaceutical manufacturers by a Senate Committee. What this will mean for the future remains a question.

Medicare

The executive secretary is administrator of the "Medicare" program which is still a much smaller program than originally anticipated. The first fiscal year it operated we handled \$170,000.00 in care. In the fiscal year 1959-60, it was down to \$48,568.00. This year the total was up to \$54,990.00. Administration costs are down 6% from a year ago when they totaled 6.6%.

Board of Medical Examiners

As executive secretary of the Board of Medical Examiners, he attended three Board meetings and has maintained the records, funds, and correspondence for that body.

Legislation

1961 was a legislative year in South Dakota and a most successful one for the Medical Association. Any bills we opposed were defeated. All but one we supported passed and that one was part of a compromise on medical care for the aged.

Since the Legislature adjourned much staff time of both the Association and Blue Shield has been devoted to the preliminary planning of the Old Age Assistance Medical Care program which becomes effective July 1, 1961.

John C. Foster

Executive Secretary

The Reference Committee recommends the acceptance of this report and we extend thanks to Mr. Foster for all of his fine work.

REPORT OF THE COUNCIL

There were three regular Council meetings held during the year. In addition to these, a telephonic conference regarding OAA and MAA legislation was held on December 27, 1960. Detailed minutes of the above meetings have been published in the SDSMA Journal for the months of June, 1960, October, 1960, and February of 1961. A detailed report at this time would do no more than reiterate

information already presented in the published minutes.

J. J. Stransky, M.D.

Chairman of the Council

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIRST DISTRICT

The Aberdeen District Medical Society holds monthly dinner meetings on the first Wednesday of each month from September to June. The following is a list of speakers:

September: Dr. Bernard Gerber of Aberdeen spoke on "Hyperparathyroidism: It's Varied Clinical Patterns."

October: Annual Hunting Meeting. Dr. Roy Jackson spoke on "Various Lesions Seen in Proctologic Examinations." Dr. James T. Priestly spoke on "Surgical Lesions of the Adrenal Glands."

November: Dr. Jennings spoke at this meeting on "Post Streptococcal Glomerulonephritis."

December: The regular December meeting was cancelled due to a severe blizzard.

January: Dr. John F. Briggs spoke on "Unusual Aspects of Coronary Disease." The nominating committee presented their recommendations for Officers for 1961.

February: Due to illness of scheduled speaker, Dr. B. Gerber spoke on "Surgical Aspects of Pancreatitis."

March: Dr. Lloyd S. Ralston spoke on "Some Pitfalls in Laboratory Diagnosis."

April: Dr. Thomas W. Shields of Chicago, Illinois, spoke on "Diagnostic Procedures in Pulmonary Disease." Dr. C. Rodney Stoltz, president, SDSMA, John Foster, and Phyllis Sundstrom were guests at the April meeting.

May: Dr. Edwin G. Olmstead of Grand Forks, N. D. spoke on "Treatment of Acute Glomerulonephritis."

MEMBERSHIP: 46 members

OFFICERS:

President, Robert Bormes, M.D.

Vice President, A. C. Vogele, M.D.

Sec.-Treas., B. Gerber, M.D.

DIRECTORS:

J. A. Eckrich, M.D.

E. J. Perry, M.D.

CENSORS:

J. C. Rodine, M.D.

M. E. Sanders, M.D.

C. L. Vogele, M.D.

DELEGATES:

W. R. Taylor, M.D.

R. Berzins, M.D.

ALTERNATES:

G. Steele, M.D.

C. B. Murdy, M.D.

J. M. Berbos, M.D.

Respectfully submitted,
E. J. Perry, M.D., Councilor
First District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SECOND DISTRICT

Membership: 24

Officers:

President—R. Auskaps, M.D.

Vice President—C. Ryan, M.D.

Secretary-Treasurer—G. E. Tracy, M.D.

Delegates:

S. Walters, M.D. (1 year)

A. Willen, M.D. (2 years)

Alternates:

T. J. Wraga, Jr., M.D.

C. Clark, M.D.

The Watertown District Medical Society holds

monthly dinner meetings on the first Tuesday of each month from September to June. In addition to the regular business meetings, the following programs were presented during the year:

September 1960:

Official visitation of Dr. C. R. Stoltz, President of the South Dakota State Medical Association.

November 1960:

Drs. Bowes and Gilbert, psychiatrists from Aberdeen, discussed operation of a mental health clinic and the feasibility of such a clinic in the Watertown area.

December 1960:

Election of officers.

January 1961:

State legislative report by Senator C. L. Chase and Representatives H. Teske and J. Krull.

March 1961:

Dr. Ivan Frantz, University of Minnesota, "Diet, Drugs and Arteriosclerosis."

April 1961:

Dr. E. D. Rooke, Mayo Clinic, "Headache."

Respectfully submitted,

John J. Stransky, M.D. Councilor
Second District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR THIRD DISTRICT

The first meeting since the last report was on April 20, 1960, at Arlington, South Dakota. About 30 members, their guests and auxiliary met at the City Cafe at Arlington at 6:30 P.M. for dinner. The guest speaker was Dr. Knowles of Sioux Falls. He spoke at length on the Minnehaha Mental Health Center, its organization and operation and the possibility of outside colleague participation in its facilities and services.

Matters taken up at the business meeting were the submitting of three names for councilor from the Third District to succeed the expired term of Dr. M. C. Tank. The three names were Dr. M. C. Tank, Dr. J. A. Anderson, and Dr. E. T. Plowman. Dr. Don Scheller was designated as delegate to the State meeting at Aberdeen to replace Dr. Dean C. Austin.

The next meeting was held on June 9th, 1960 at the Brookings Country Club. There were about 33 members and their wives at this meeting and because this was more or less a social meeting, the business was unproductive. The program was conducted by Dr. S. Friefeld, with a short period for questions and answers that were doubtfully scientific. It was very informative and interesting.

The third meeting of 1960 was held on August 11, 1960 at the Brookings Country Club where a movie was shown depicting microscopic effect of viruses on living cells. Following this, the business meeting was held. A telegram and a letter from A.M.A. headquarters urging action on Forand type legislation by the society was read. It was requested that the secretary send a Thermo-fax copy to the members for their individual action. A letter of acknowledgment of \$150.00 donation from the Auxiliary to the University Medical School was read and transmitted to the president of the Auxiliary.

The 4th meeting of the society was held on October 13, 1960, at Madison, South Dakota. Following a very nice dinner, Mr. William Green, executive secretary of the Association for Mentally Retarded from Sioux Falls, South Dakota, gave a talk on the mentally retarded. After this, John Foster talked briefly on a new type of overhead expense protection insurance, exclusive with members of the South Dakota State Medical Association. At the business meeting Dr. Tank reported on the progress being made on proposed building of a new hospital in Brookings. There being no further business, the meeting was adjourned.

The next meeting of the Society was held on Thursday, December 8, 1960 at the Indian Tea Room at Flandreau, South Dakota. After a very good meal, Dr. W. R. Anderson of Sioux Falls addressed the group on the subject "What are the Requirements for Patients in Cases of Dehydration." At the regular business meeting there was an election of officers as follows:

President—Dr. D. D. Hillan

Vice President—Dr. B. T. Otey

Secretary-Treasurer—Dr. C. M. Kershner

Delegates—Dr. Donald Scheller, Dr. J. A. Anderson

Alternates—Dr. H. R. Wold, Dr. J. A. Muggly

Censors—Dr. Friefeld, Dr. Roberts, Dr. Turner

The meeting was adjourned following the election of officers.

The final meeting on this report was held on Thursday, February 9, 1961, at the Bates Hotel, Brookings, S.D. There were 35 members present, including auxiliary and guests. Dr. Walter Patt introduced Dr. Norman Bissel, the speech pathologist at the Crippled Children's Hospital in Sioux Falls. He gave a short talk on speech therapy and the availability of Mrs. Maris who is located at State College, for any speech therapy that we might have. He also stated that the Sioux Falls office accepted out-patients every Wednesday, both children and adults, for a nominal fee of \$2.00. A communication from Mr. John Foster, executive secretary, concerning the question of the establishment of a coefficient per point value for the medical association's relative value study in connection with the State Administration of Medical Care for Old Age Assistance, which will be effective July 1, 1961 was discussed. A lively discussion followed with instructions that the secretary answer Mr. Foster to this effect:

"1) Since a physician's fee, as we all know is not "take home pay" but includes reimbursement of capital investment in his education and overhead, including employees' salaries, office expense, professional dues and taxes, and since the type of patient involved requires much more than average time, the \$3.50 figure used as a coefficient per point should not be reduced. It was hoped the original suggested figure of \$5.00 would at least be considered.

2) The coefficient really should be a figure based on the fluctuating value of the dollar or on such a figure as five times the minimum hourly wage.

3) Administrative costs of a fiscal agency should not be included in the point value. Several of the members requested that, if possible, they would like to know the per cent or the actual amount for fiscal administration of the V.A., Blue Shield, Medicare, and so forth."

This is the end of the report of the Third District and although it has not been as heated as previous years, it is still very interesting.

Respectfully submitted,

M. C. Tank, M.D., Councilor
Third District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FOURTH DISTRICT

The Fourth District has 20 paid up members, 1 honorary member, 1 military member, and 2 eligible for membership in the society.

All meetings of the Council during the year were attended by the Councilor.

Meetings of the Fourth District Society held during the year were: May 5, 1960, a meeting regarding the Relative Value Schedule. October 18, 1960, a meeting in which the District was visited by State President, Dr. C. Rodney Stoltz; and the

proposed Federal Employees Program was explained by John Foster, the executive secretary. October 20, 1960, a meeting attended by John Foster, when information was transmitted on Overhead Insurance. February 9, 1961, a meeting for the election of officers, at which time the following officers were elected:

President—B. O. Lindbloom, M.D.
 Vice-President—S. W. Fox, M.D.
 Secretary-Treasurer—J. T. Cowan, M.D.
 Delegates—R. C. Jahraus, M.D. and Hubert Werthmann, M.D.

In the February meeting, discussion of matters before the State Legislature was held, and it was moved that the Unit Value of 3.5 be applied to the Relative Value Schedule for care of the Indigent.

Respectfully submitted,
 L. C. Askwig, M.D., Councilor
 Fourth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIFTH DISTRICT

The Huron District Medical Society held four meetings during the year 1960-1961. The first meeting was held on September 8, 1960 at the Marvin Hughitt Hotel. Dr. Paul Hohm reported on the proposed reorganization of Blue Cross and Blue Shield Plans. The delegates were instructed to go along with the proposed reorganization of Blue Cross and Blue Shield. Dr. Clifford Gryte announced diabetic week would be held November 13-19, 1960, and it should be publicized as much as possible. Dr. Saxton discussed the South Dakota Physicians Committee and again urged the medical doctors to contribute to the political party of their choice. A motion was made and seconded that the Pheasant Seminar be abandoned permanently due to the lack of interest. Letters were to be written to past guests inviting them to return for pheasant hunting and also stating that the Seminar was being discontinued.

The annual meeting was held December 8, 1960, at the Plains. The minutes were read and approved and the treasurer's report was given and approved. Dr. David Buchanan reported on the interest of the Wolsey Parent-Teachers Association in starting a large scale check up on all students including immunizations, Mantoux checks, serologies, and chest films. It was the feeling of the members present that this type of thing be avoided.

Election of officers was held and are as follows:

President—Dr. Yale Charbonneau
 Vice President—Dr. Paul Tschetter
 Secretary-Treasurer—Dr. E. C. Hanisch
 Censor—Dr. J. H. DeGeest
 Delegates according to bylaws—Dr. Clifford Gryte and Dr. Roscoe Dean
 Alternate—Dr. E. C. Hanisch

Dr. Stoltz, President of the State Medical Association, gave a brief talk on the accomplishments and goals of the State Association covering Blue Cross, Blue Shield, doctor placement service, veterans health care, and the erection of the new headquarters building in Sioux Falls. He also stated that the political activity of the South Dakota Physicians Committee apparently had good results and that the Committee should continue to function. Mr. Foster spoke briefly about the indigent care plan and the Blue Cross and Blue Shield program and its growth. A motion was made and seconded that the medical society favor the program as outlined by Mr. Foster and the councilors be instructed to go along with this plan. The meeting was adjourned.

The third meeting was held March 2, 1961, at the Inn (Hotel Tams). The meeting was called to order by Dr. Charbonneau. The minutes were read and approved. The Old Age Assistance and M.A.A. Pro-

gram was discussed by Doctors Paul Hohm and Harold Adams in regard to the amount of the coefficient that should be applied to the association's relative value study. After some discussion, a motion was made by Dr. Paul Hohm that the society recommend the coefficient value of \$3.50 be applied to the relative value scale for both of the plans. A motion was made and carried.

It was announced that Dr. Huet was not an active member of the society and Dr. Rudolph Orgusaar had dropped from the society.

After some discussion, a motion was made and seconded that the Board of Censors act also as a grievance committee. The committee was informed as to its functions.

Under new business, individual members of the society were presented material from the A.M.A. and were asked to notify their congressmen and senators of their opposition to the King bill. It was recommended that the Kerr-Mills bill be given a chance to prove itself. No official action by the body was taken and the meeting adjourned.

The fourth meeting of the year will be held April 14, 1961, at the Inn and pre-convention plans and policies will be discussed.

Respectfully submitted,
 Paul Hohm, M.D., Councilor
 Fifth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SIXTH DISTRICT

The Sixth District has had a rather active year. The Officers are as follows:

President—Dr. Don Weatherill
 Vice-President—Dr. Richard Gere
 Secretary—Dr. James Vose
 Delegates—Drs. John Lloyd, Jr., and William Delaney, Jr.
 Alternates—Drs. W. H. Fritz and Don Mabee
 Censor—Dr. Floyd Gillis

There have as of this writing, been three meetings.

The first meeting was September 15, 1960, at which time Mr. Erickson was present to explain the proposal to replace the G. H. Paulsen Medical coverage with Blue Shield and the delegates were instructed to accept this new proposal.

The scientific portion of the program was on Concurrent Concepts of ABO and Rh Incompatibilities in Obstetrics and was presented by Dr. Warren Pearse, Associate Professor of Obstetrics & Gynecology at the University of Nebraska College of Medicine.

On November 17, 1960, the second meeting was held. At this meeting Mr. Hydahl of the Old Age and Survivor's Insurance at Huron, S. D., explained the OASI Disability program and explained what the State Rehabilitation Center and OASI requires in the way of medical records to support claims for disability incomes. There was also a movie on the same subject.

There was a dinner meeting on February 21, 1961, at which time the new officers were elected as noted in the beginning of this report. Discussions were held on the Kerr-Mills law and on the Social Security proposal by the new administration for the Care of the Aged.

The Council's proposal that a \$3.50 co-efficient per point for relative value studies was not passed but it was decided that this co-efficient be set when such action is required by passage of Medical Aid to the Aged by the State Legislature.

As Councilor, I have attended all Council meetings except one and this was missed only because at the time I was in Washington, D. C., as a delegate to the White House for the Committee on Care of the Aged.

Respectfully submitted,
 Preston Brogdon, M.D. Councilor
 Sixth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SEVENTH DISTRICT

Membership: 100 Active members
5 Honorary members
13 VA members
6 members on Leave of Absence

Monthly meetings were held with programs designed for interest and timeliness as follows:

January 5, 1960: Discussion on the possibility of Group Insurance. A panel of three insurance representatives was presented as reference sources, to supply the technical information.

February 2, 1960: Tour of Crippled Children's Hospital, located at Sioux Falls, which was very enlightening and of great interest.

March 1, 1960: Kermit Krantz, M.D., Professor of Obstetrics & Gynecology, at the University of Kansas, gave a discussion on the "Cystocele Problem."

April 5, 1960: Maurice Lev, M.D., Professor of Pathology at Northwestern Medical School spoke on "Basic Concepts of Congenital Heart Disease."

May 3, 1960: This meeting was set aside for discussion and instruction of delegates, as the State Meeting was to be held the following month.

No meetings during the summer months.

September, 1960: This was the first meeting in the fall and was spent in organization and assigning committees.

October 4, 1960: Walter Holden, M.D., of Omaha, Nebraska, spoke on "Present Day Management of Complications of Pregnancy."

November 1, 1960: Fall Seminar was held in lieu of our November meeting. W. Stanley Hartroft, M.D., St. Louis, spoke on "Dietary Study of Myocardial Infarction," followed by John Farquhar, M.D., of New York, N. Y., who discussed "Diet in Coronary Disease." The afternoon program began with Jeanne C. Bateman, M.D., of Washington, D. C., who presented her paper on "Non-Surgical Management of Malignancies." E. D. Hambleton, M.D. from Durham, N. C., discussed "Hormone Therapy in the Female."

December 6, 1960: Regular Business meeting.

January, 1961: John Gatewood, M.D., Professor of Surgery at Creighton University, Omaha, Nebraska, presented a paper on "Trauma of the Face and Scalp."

February, 1961: Wm. Geber, M.D., from the University of South Dakota School of Medicine, Department of Physiology, discussed "Terminal Influences on the Fetal Cardiovascular System."

March, 1961: Wm. Rumbolz, M.D., from the University of Nebraska School of Medicine in Omaha, Nebraska, spoke on "Abnormal Uterine Bleeding."

The programs were all well attended and members in attendance considered the programs of the highest caliber.

Respectfully submitted,
N. E. Wessman, M.D., Councilor
Seventh District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR EIGHTH DISTRICT

The March meeting was held in Yankton on March 3, 1960 at which Dr. W. F. Stanage, President, presided. Charles Stern, M.D. of Sioux Falls presented a program on perinatal deaths. The Constitution and Bylaws Revision Committee, consisting of Dr. Brooks Ranney and Dr. D. B. Reaney, was appointed.

At the June meeting Dr. Kenneth Jensen presented the topic "Crushing Injuries of Chest and New Technique of Cardiovascular Surgery." At this meeting the Eighth District Medical Society

resolved to oppose the sale of drugs by persons other than licensed pharmacists.

The September meeting of the Yankton District Medical Society was held in Yankton at which time Dr. Carroll Brown of Sioux City presented a paper on neurosurgical cardiovascular disease.

The December meeting was held at Yankton State Hospital at which time election of new officers took place. Those elected were: President, Dr. Hugo Andre, Vermillion, S. D.; Vice President, Dr. Ken Dregseth, Yankton, S. D.; Secretary, Dr. E. J. Moore, Vermillion, S. D.; and Dr. R. J. Foley, Tyndall, S. D. as Treasurer. The program consisted of a presentation by Dr. Lysloff and Dr. Behan who discussed the State Hospital program and goals.

The January meeting was held January 25, 1961, in Vermillion, S. D., at which Dr. Andre presided. Scientific program was given by Dr. G. B. Voolz, Chief of Medical Service associated with the United States Atomic Energy Commission. His program was on radiation injury and bone marrow research. Legislative reports were presented, discussed and recommendations regarding this and the Distinguished Service Award were made for the District representative to forward to the state society.

Respectfully submitted,
T. H. Sattler, M.D., Councilor
Eighth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR NINTH DISTRICT

During the past year the Black Hills District Medical Society has been active in promotion of Legislative and general public understanding of medical problems.

Six meetings were held during the year, with outside speakers covering topics including problems in Pediatrics, Surgery, Neurology, Thyroid Tumors, Endocrine Problems, Traffic Safety.

Officers for the following year:

President: Dr. Charles Roper, Hot Springs
Vice-President: Dr. J. T. Elston, Rapid City
Secretary-Treasurer: Dr. H. H. Theissen, Rapid City

Delegates: Dr. R. Bareis and Dr. F. S. Sherrill
Alternate Delegates: Dr. E. T. Ruud, Dr.

Robert Bray, Dr. Thomas Mead, Dr.

Arthur Simmons, and Dr. John Leeds

New member of the Censor Committee is Dr. John Feehan.

We report with regret the loss of Dr. F. S. Howe of Deadwood; Dr. N. W. Stewart of Lead; and Dr. Gordon Q. Olsson of Rapid City, during the past year.

Respectfully submitted,
J. D. Bailey, M.D., Councilor
Ninth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR TENTH DISTRICT

Six scientific meetings were held during the year. All meetings were held at Winner, the most central location in the Tenth District.

Considering the distances that some have to travel, attendance has been very good.

Because of the small number of medical doctors in the District, it was felt that meetings would be more interesting and rewarding if the dentists, pharmacists, and veterinarians could also attend the scientific and social sessions. Accordingly, the "Rosebud Inter-Professional Society" was organized. At present we have about 18 members. A scientific program or discussion has been held at each meeting.

Two new physicians have entered practice in

the Tenth District in recent months. They are Dr. Dave Studenberg at Gregory, and Dr. Robert Stiehl at Burke, S. D. Dr. S. J. Clark has recently retired from practice in Gregory for reasons of health.

The following officers were elected to serve for the ensuing year:

President—R. L. Lillard, M.D.
Vice President—Dave Studenberg, M.D.
Secretary—Robert L. Stiehl, M.D.
Delegate—P. E. Lakstigala, M.D.
Alternate—R. W. Roesel, M.D.
Councilor—E. P. Sweet, M.D.
Respectfully submitted,
Ed Sweet, M.D., Councilor
Tenth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR ELEVENTH DISTRICT

During the year 1960 only two meetings were held by the Northwest District Medical Society. One was the visit of the state president, Dr. C. R. Stoltz; and the other meeting was in connection with the discussion of clinic overhead expense insurance.

To date, there has been no meeting for the reelection of officers, particularly to replace Dr. Stephens, our late president. Our officers are as follows: B. P. Nolan, M.D., Secretary-Treasurer; J. A. Lowe, M.D., Delegate, and H. E. Lowe, M.D., Councilor and Alternate Delegate.

Respectfully submitted,
H. E. Lowe, M.D., Councilor
Eleventh District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR TWELFTH DISTRICT

The Twelfth District Medical Society had three meetings during the year. These were held at Webster, Sisseton, and Milbank. Dr. Rodney Stoltz and John Foster visited the meeting held at Sisseton.

Respectfully submitted,
E. A. Johnson, M.D., Councilor
Twelfth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR AT LARGE

As Councilor at Large, I attended the Council meetings held in September, 1960 and January, 1961.

I also attended the North Central Conference held in Minneapolis, in November, 1960.

Respectfully submitted,
R. A. Buchanan, M.D.
Councilor at Large

The Reference Committee recommends the acceptance of this report.

REPORTS OF COMMITTEES AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work submits the following scientific meeting for 1961:

Film—Anemia
The Vascular Dissemination of Cancer—Stuart S. Roberts, M.D.
The Diagnosis and Treatment of Primary Hemorrhagic Diseases — Sloan J. Wilson, M.D.
Once a Cesarean, Always a Cesarean? — Robert A. Kimbrough, M.D.
Swallowing Disorders (Including a film on the Surgical Correction of Aphagia) — Benjamin Bofenkamp, M.D.

Symposium on "Recent Advances in the Diagnosis and Treatment of Neoplastic Disease" (Discussion by panelists of representative case presentations) — Drs. Bofenkamp, Kimbrough, Martin, Menguy, Murphy, McWhorter, Roberts and Wilson participating.

Film — Anorectal and Sigmoidoscopic Examination with Differential Diagnosis.

Problems in Diagnosis of the Central Nervous System Virus Diseases — Floyd C. Bratt, M.D.

Carcinoma of the Uterine Cervix — Clarence McWhorter, M.D.

Lymphomas and Leukemias — Hugh Hare, M.D.

Whiplash Injuries — Ralph M. Stuck, M.D.

Management of Esophageal Hiatal Hernia — Rene B. Menguy, M.D.

Pyuria in Children — J. Harry Murphy, M.D.

Respectfully submitted,
COMMITTEE ON SCIENTIFIC WORK
T. H. Sattler, M.D., Chairman
R. H. Quinn, M.D.
A. P. Reding, M.D.

The Reference Committee compliments the Committee on Scientific Work for the excellent, well balanced scientific program for the 1961 meeting. The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON LEGISLATION

This committee held its first formal meeting on September 10, 1960, at Huron, South Dakota. Many legislative items of interest to the public health and the medical profession were considered and a formal report of the opinion and recommendations of the committee was presented to the Council. This report was printed in the November 1960 issue of our State Journal and will not be repeated in this report.

A second meeting of the committee was held on December 10, 1960, at Huron, S. D. Many more items involving legislation on state and national levels were considered. The recommendations of the committee were presented to the Council in a written report which was published in full in the February 1961 issue of our Journal and will not be reprinted here.

The chairman of this committee was invited to meet with the Council at its meeting during the session of the state legislature. This meeting was held on January 15, 1961, at Huron, S. D. At that meeting the reports of the committee were discussed and the thoughts and opinions of the committee were expressed in greater detail to the Council regarding the subject material of the reports as well as other legislation.

Action taken at the recent state legislative session indicates that the views and position of the South Dakota State Medical Association were sound and were respected. Since these various matters and action taken upon them were reported in the press, in our State Journal, and in "The Grab Bag" they should be known to all and will not be repeated in this report.

On the national level, the nation and the health professions are faced with new, administration-sponsored, "Forand Type" legislation under a different title and of a slightly different hue. Proposed legislation for tax deferment for the self-employed is also before Congress again. Undoubtedly many other measures of interest to our profession will be proposed during coming months. Member physicians and district societies should make their views known in writing on any of these subjects to our representatives in the Congress. This committee cannot emphasize too strongly the need for each member of our association to become well informed on proposed health legislation before our national Congress so that he may make his thoughts known in an effective way to our representatives in Washington.

During past years on several occasions our asso-

ciation has sent a delegation to Washington, D. C. for conferences with our two senators and two representatives on proposed health legislation before the Congress. Our last conference of this type was held during March, 1959, at which time four representatives of our association met with the senators and representatives from South Dakota. The committee believes that much can be accomplished by such conferences and recommends that they be continued by the association. Since more than two years has elapsed since our last one and since critical proposed legislation is before the Congress, the committee recommends that such a conference be arranged during the year 1961.

Respectfully submitted,
COMMITTEE ON LEGISLATION
 H. Russell Brown, M.D., Chr.
 R. F. Hubner, M.D.
 E. T. Ruud, M.D.
 H. R. Lewis, M.D.
 C. L. Swanson, M.D.
 M. C. Tank, M.D.

The Reference Committee feels the Committee on Legislation is to be commended for its excellent record during the past legislative session. The Reference Committee recommends the acceptance of this report.

REPORT OF THE PUBLICATIONS COMMITTEE

During the past fiscal year, the South Dakota Journal of Medicine and Pharmacy published 1460 pages, a decrease of 61 pages over the year before. Editorial, scientific, and new material, a total of 707¼ pages, showing an increase of 70¼ pages over the year before. The advertising showed a decrease of 132¼ pages for a total of 752¾ pages; this is in line with the national trend which has resulted from the diminished advertising from the drug companies due to the intense criticism received by these companies at congressional investigation.

Respectfully submitted,
PUBLICATIONS COMMITTEE
 R. E. Van Demark, M.D., Chr.
 G. S. Paulson, M.D.
 Robert Rank, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

It is evident that the legal and medical professions of South Dakota are aware that this committee is active even if the duties of the committee have not been extensive since the last report. It is most gratifying that two law suits were settled out of court this past year — one on the advice of the committee and the other before it was to be heard.

The only meeting held during the year was on June 2, 1960, with the following members present: Drs. J. W. Donahoe, L. J. Pankow, Attorney Ellsworth Evans, and your chairman. The law suit was settled out of court following the advice of the committee.

A second meeting was scheduled to be held on February 10, 1961, but before that date, the suit was settled out of court.

Respectfully submitted,
COMMITTEE ON MEDICAL DEFENSE
 A. P. Reding, M.D., Chr.
 J. W. Donahoe, M.D.
 L. J. Pankow, M.D.
 C. B. McVay, M.D.
 G. F. Wood, Jr., M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL SCHOOL AFFAIRS

MEDICAL EDUCATION AND HOSPITALS

The Medical School Affairs Committee met January 14, 1961, at Huron, S. D.

The Committee recommended to the Council of

the Medical Association the allocation of funds for two medical student scholarships in the amount of \$100 each; that a letter be written to the Governor requesting that the Medical School of the University of South Dakota have a separate budget from the University, as has been done in previous years; and that a study be made of Medical Education and its future in the State, using such funds as may be available for such studies.

Dr. Hard discussed the following items: the annual medical school banquet on March 25; the medical school building program and utilization of AMEF funds; student transfers and agreements with other states and AMEF contributions; Medical School budget recommendations; and proposed federal legislation, problems and needs in the future of the Medical School.

Respectfully submitted,
COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION, AND HOSPITALS
 C. B. McVay, M.D., Chr.
 T. J. Wrage, Jr., M.D.
 R. C. Jahraus, M.D.
 Ronald Price, M.D.
 Warren Jones, M.D.
 W. H. Saxton, M.D.
 F. R. Williams, M.D.

Your Reference Committee is impressed by the increasing respect, prestige, and scientific attainments with which the Medical School is held by the physicians in South Dakota and requests that the House of Delegates of the South Dakota State Medical Association express their confidence and admiration for the guidance Dean Hard has demonstrated in the conduct of Medical School affairs.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Committee met twice during the year. The meetings were held in August and December at Sioux Falls.

The Committee recommended to the Council that the loss-of-time program be maintained with the Harold Diers Company, and that the Company make an earnest endeavor to increase the number of physicians enrolled in their plan; that the physicians who have been rejected be given another chance through an open enrollment on the basis of their increased number of participants; or that they waive underwriting for those who have been turned down for physical reasons after they have secured additional enrollees.

The Committee also surveyed the membership of the Association for a proposed plan for group overhead protection offered by Continental Casualty Company. The program was started January 1, 1961.

The Committee also studied unified retirement trust programs for physicians but decided at the present time, they should be tabled pending action on Keogh type legislation.

Respectfully submitted,
COMMITTEE ON MEDICAL ECONOMICS
 Magni Davidson, M.D., Chr.
 Abner Willen, M.D.
 T. H. Sattler, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON NECROLOGY

The Committee reports the following deceased physicians in the State during the past year:

A. Repsys, M.D., Buffalo, passed away in July, 1960.

Wm. G. Rieb, M.D., Parkston, passed away on August 3, 1960.

Hermanis Reisberg, M.D., Yankton, passed away in August, 1960.

A. Stephans, M.D., Hartford, passed away in August, 1960.

N. Wells Stewart, M.D., Lead, passed away in August, 1960.

F. C. Nilsson, M.D., Sioux Falls, and White Bear Lake, Minnesota, passed away on September 7, 1960.

E. T. Torwich, M.D., Jackson, Michigan, formerly of Volga, S. D., passed away in November, 1960.

L. C. Shockey, M.D. of Mobridge, who also practiced at Pollock, and Mound City, passed away in October, 1960.

J. E. Hollingsworth, M.D., Avon, passed away on November 9, 1960.

F. S. Howe, M.D., Deadwood, passed away on December 5, 1960.

M. E. Cogswell, M.D., Wolsey, passed away on December 25, 1960.

L. R. Elward, M.D., Redfield, passed away on December 25, 1960.

Anton Hyden, M.D., Sioux Falls, passed away on February 2, 1961.

Gordon Olsson, M.D., Rapid City, passed away on January 22, 1961.

Respectfully submitted,
COMMITTEE ON NECROLOGY
L. L. Parke, M.D., Chr.
R. E. Bormes, M.D.
E. J. Batt, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

No assignments were given the Committee on Public Health for the past fiscal year.

Respectfully submitted,
COMMITTEE ON PUBLIC HEALTH
N. E. Wessman, M.D., Chr.
T. E. Mead, M.D.
J. T. Cowan, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CANCER

The following physicians were concerned with the activities of the American Cancer Society during the past year: Robert K. Rank, M.D., Wayne A. Geib, M.D.; E. G. Huppler, M.D.; Donald H. Breit, M.D.; George F. McIntosh, M.D.; Myron C. Tank, M.D.; Leroy C. Askwig, M.D.; Bernard T. Lenz, M.D.; and Paul V. McCarthy, M.D.

Attached is a detailed report of the activities of the American Cancer Society, South Dakota Division during the past year.

Tumor Clinics and Cancer Registries

Sacred Heart Tumor Clinic, Yankton	\$3,000.00
Five Cancer Registries:	1,500.00
St. John's Hospital, Rapid City	
Bennett Clarkson Hospital, Rapid City	
St. Luke's Hospital, Aberdeen	
St. Ann's Hospital, Watertown	
McKenna Hospital, Sioux Falls	

Research

To national research program from state funds extra	\$30,000.00
University of South Dakota	
Medical School	
L. C. Smith research project	3,500.00

Education

PROFESSIONAL

Trained Cyto-technician at Mayo Clinic	\$1,400.00
Graduate Nurse at New York University	800.00
285 doctors received subscriptions to CA	
40 medical students received subscriptions to CA	
257 doctors received subscriptions to Cancer Bulletin	
286 dentists received one issue of Cancer Bulletin	
Provided films, information and materials for Schools of Nursing, to nurses, doctors, and dentists.	

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In addition to our usual programs of films, every high school in the state has been given the teaching kit "Cancer — A Challenge to Youth." 250 schools have been given the teaching kit "To Smoke or Not to Smoke." This we are suggesting should be used also in the 7th and 8th grades, before the smoking habits of the pupil are formed.

We are filling more requests than ever for information on cancer.

Service

134 cancer patients were serviced in some way — financial assistance, drugs, dressings, loan closet items.

Respectfully submitted,
COMMITTEE ON CANCER
P. V. McCarthy, M.D., Chr.
E. G. Huppler, M.D.
G. F. McIntosh, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD WELFARE

Your committee contributed to the joint meeting of all state committees on Maternal and Child Welfare within the confines of the Sixth District of the American College of Obstetricians and Gynecologists in Chicago in November, 1960. This meeting was primarily concerned with the functioning of Maternal Mortality Studies. Statistics presented there showed that the state of South Dakota has a good Maternal Mortality rate which, however, is subject to increasing improvement. Within the state we still have occasional maternal mortalities which are directly traceable to lack of proper education concerning the value of prenatal care among the young women on our Indian reservations. Within the state we still have occasional maternal mortalities which are directly traceable to lack of convenient, adequate blood bank facilities. Within the state we still have maternal mortalities which are directly traceable to too high a concentration, too rapid an infusion, or a marked hypersensitivity to intravenous drip Pitocin infusion. It is only within the last year that no patient within the state of South Dakota was recorded as dying specifically of toxemia of pregnancy.

During the past year the Committee on Maternal and Child Welfare has not been consulted by the Department of Adoptions or Child Placement of the State Welfare Department.

Crippled Children's Clinics through the state of South Dakota have been held through the courtesy of respective Elks Lodges.

Respectfully submitted,
COMMITTEE ON MATERNAL AND CHILD WELFARE
Brooks Ranney, M.D., Chr.
L. W. Tobin, M.D.
N. R. Whitney, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee met on November 19, 1960, in Sioux Falls with the following present: Drs. McDonald, Reding, Davidson, Stransky, and Stoltz. Matters considered and acted upon were as follows:

- (1) Recommended to the Council that a standard figure of \$3.50 per unit (according to the Relative Value Schedule) be placed on the services in the Memorandum of Understanding as a basis for negotiations with the Public Health Service Indian Agency Office.
- (2) Recommended to the Council that the State Association
 - (a) no longer pay travel expenses of any member of the Association for travel within the state;

- (b) pay full expenses of the delegate and alternate delegate to the regular and interim sessions of the American Medical Association;
- (c) pay actual travel expense plus actual hotel room expense of individuals representing the State Association only upon prior authorization of the Secretary-Treasurer and after routing the request through the executive office.
- (3) Allowed travel expenses to Dr. H. Russell Brown for attending a legislative meeting in Salt Lake City.
- (4) Submitted to the publication **Post Graduate Medicine** the names of outstanding physicians in the history of South Dakota as suggested by Mr. Will Robinson, State Historian, with the request that the Association be contacted again before making a final determination of the South Dakota selection.
- (5) Endorsed the Blue Cross public relations project proposing the distribution of card case size folders with space for medical information.

Respectfully submitted,
EXECUTIVE COMMITTEE
 C. Rodney Stoltz, M.D., Chr.
 C. J. McDonald, M.D.
 R. H. Hayes, M.D.
 J. J. Stransky, M.D.
 A. P. Reding, M.D.
 Magni Davidson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE GRIEVANCE COMMITTEE

Honorable President, Officers, and Members of the South Dakota State Medical Association:

The past year has been moderately active for your Committee on Grievances, exclusive of the number of Grievances received, but in extra-committee activity. Members of the Committee have presented talks before group organizations discussing our functions and admonitions; and at least one editorial on individual advertising for our State Journal has been written. As a result of these activities favorable letters and comments have been received by the committee. Members of the Committee participated in a panel discussion at the North Central Conference in Minneapolis, last November, at which the exchange of ideas was profitable.

There has been no formal meeting of the Committee, as such, but necessary business and decisions have been adequately handled by mail and by phone. A formal meeting will be held at the State Meeting for analysis of grievances of the past year and to listen to comments and questions from members wishing to attend our session.

One matter investigated was a complaint by a doctor that an insurance company refused to pay for suturing a wound done by an interne in a hospital on the grounds that the work was done by an unlicensed person. It is suggested that under similar circumstances in the future, it be stated on the insurance claim blanks that the work was done by an interne at the physician's order and under his supervision. Someone may eventually obtain a court decision on such claims. It is our feeling that if a doctor is responsible for a case, he should receive proper compensation.

Another difficulty has been a habit of a corporation employee arbitrarily refusing to give claim blanks in instances where he assumes the company insurance is not liable. After carrying this to the home office of the insurance company and a personal discussion with one of the officers, we were assured that claim blanks would be furnished on request in the future, even though the claims might not be honored. He agreed that the decision as to claims was the obligation and responsibility

of the insurance company and not of an employer or his clerks.

Ten complaints have been filed this year.

No. 1. This was a misunderstanding between two doctors and probably some supersensitivity on the part of one and some arrogance on the part of the other. The one doctor requested a consultation and the consultant assumed treatment. Altho a delicate situation for a time, it is believed to have pretty well evaporated by now.

No. 2. This was a complaint by a sales promoter who consulted a physician who was not about to be "promoted" into short cuts, and the salesman was promoted into a \$40.00 bill in short order. The Committee recommended a reduction in the fee. Since no more has been heard, it is presumed that the affair is settled.

No. 3. This is a complaint brought by an insured person who objected to the fee the insurance company paid to the doctor. The company paid the amount of the bill without question. It was not felt that the fee was excessive and there is some question as to why the patient complained. Attempts to explain the justice of the fee were rejected by the patient in a tone which could only be interpreted as indicating that he is just opposed to doctors.

No. 4. This was a letter from a now deceased doctor who anticipated trouble with a hospital staff over another doctor. The trouble all evaporated.

No. 5. This was a complaint by a man who objected to the charge for his wife's confinement. Two doctors were involved in the prenatal care and delivery. The prevailing fee in the community was \$100.00, and each doctor charged \$50.00 for his part. It is believed that our explanation was accepted by the complainant.

No. 6. Once there was a man who ordered a pump for his well from a catalogue house. He sent a long and bitter tirade to the Company, complaining that they did not send a handle for the pump and 'what good was a pump without a handle?' After several pages of bitter and caustic comment he signed the letter, but added this postscript — "forget this letter, because after I wrote it, I found the pump handle in the bottom of the box." This complaint against a doctor was quite detailed concerning charges for valueless services. Then a P.S. was added telling that she had complained to the clinic and her bill had been cancelled. — Oh, well!

No. 7. A doctor leaving a community to practice in another town took a great number of hospital patient records with him and had ignored requests by the superintendent to return them. The apparent idea was the hope that most of these patients would continue to consult him in his new location. A letter to the doctor called his attention to the fact that the records were hospital property and threatened referral to the Council for action if not returned. The hospital was asked to inform us if the records were not immediately returned, and we have no information to date that they were not returned.

Nos. 8 and 9. These were letters from the Industrial Commissioner's office asking advice on two disputed Workmen's Compensation claims on fees by an insurance company against two doctors in separate communities and for separate patients. With very minor recommendations for adjustments, it was recommended that the fees be allowed. A comment was included that it was interesting, if not noteworthy, that this particular insurance company disputed more fees than all the rest of the companies doing business in South Dakota. As yet no report of the decision of the Commissioner has been received.

No. 10. This was a complaint against the collection methods of a foreign born educated doctor. A \$3.50 payment was made on a \$13.00 bill, and

the doctor threatened collection proceedings unless the entire amount was paid at once. Our letter to the doctor asking for details brought a long listing of the donations and free work presently being done by the doctor which made it necessary for him to thus vigorously press his collections. A return letter from your chairman suggested that the doctor read in the King James version of the Bible, the 18th Chapter of Matthew, starting at the 23rd verse. To date there has been no reply from the doctor.

This concludes the report of work done by the committee up to and including March 15, 1961. Any additional cases or developments on this report will be given in a supplemental report at the State Meeting.

18th Chapter of Matthew, beginning with the 23rd verse

Therefore is the kingdom of heaven likened unto a certain king, which would take account of his servants.

And when he had begun to reckon, one was brought unto him, which owed him ten thousand talents.

But forasmuch as he had not to pay, his lord commanded him to be sold and his wife, and children, and all that he had, and payment to be made.

The servant therefore fell down, and worshipped him, saying, Lord, have patience with me, and I will pay thee all.

Then the lord of that servant was moved with compassion, and loosed him, and forgave him the debt.

But the same servant went out, and found one of his fellowservants which owed him an hundred pence: and he laid hands on him, and took him by the throat, saying, Pay me that thou owest.

And his fellow servant fell down at his feet, and besought him, saying, Have patience with me, and I will pay thee all.

And he would not: but went and cast him into prison, till he should pay the debt.

So when his fellow servants saw what was done, they were very sorry, and came and told unto their lord all that was done.

Then his lord, after that he had called him, said unto him, O thou wicked servant, I forgave thee all that debt, because thou desiredst me:

Shouldest not thou also have had compassion on thy fellow servant, even as I had pity on thee?

And his lord was wroth, and delivered him to the tormentors, till he should pay all that was due unto him.

So likewise shall my heavenly Father do also unto you, if ye from your hearts forgive not every one his brother their trespasses.

Respectfully submitted,
GRIEVANCE COMMITTEE
L. J. Pankow, M.D., Chr.
M. M. Morrissey, M.D.
R. A. Buchanan, M.D.
Wm. Saxton, M.D.
A. P. Peeke, M.D.

The Reference Committee believes that the Grievance Committee should be commended for their efforts and astute judgment in handling the difficult problems that have been presented to them during the past year. The Reference Committee recommends the acceptance of this report.

**REPORT OF THE COMMITTEE
ON MENTAL HEALTH**

The Committee on Mental Health met many times during 1959 and 1960 and produced a complete revision of the state laws dealing with mental illness. A revision was considered in two state-wide meetings representing the State Department of Health, the State Board of Charities and Cor-

rections, the County Judges Association, the Mental Health Committee of the State Bar Association, and a representative of the Council of the South Dakota Medical Association. No general agreement could be reached on the revision except for three items:

Item No. 1: It was generally agreed that there was a need for commitment of certain mentally ill patients (mostly those with a senile psychotic reaction) to certified nursing homes. It was felt by the Superintendent of Yankton State Hospital, a member of the committee, that this would enable him to move a certain percentage of the elderly population at the State Hospital, patients who can no longer benefit by hospital treatment, to nursing homes. This legislation was re-drafted a number of times and was finally submitted to the Council of the State Medical Association in December, 1960, with the recommendation that the legislation should be proposed to the 1961 legislature. The Council minutes showed that the matter was referred to the Committee on Legislation, which took no action.

Item No. 2: It was generally agreed that there should be legislation allowing for the commitment of patients to the psychiatric facility of a general hospital. This legislation was carefully drafted and was submitted to the Council of the State Medical Association in December, 1960. The Council minutes showed that the matter was referred to the Committee on Legislation which took no action.

Item No. 3: The Superintendent of Yankton State Hospital proposed that he would like to see an entirely revised administrative pattern for State Hospital. When he is finished with these plans, the committee will again undertake a complete revision of the laws dealing with mental illness.

The chairman has attended two meetings in Chicago with mental health representatives of the State Medical Association, sponsored by the A.M.A., studying mental health legislation in the fifty states.

Respectfully submitted,
COMMITTEE ON MENTAL HEALTH
E. S. Watson, M.D., Chr.
James Gilbert, M.D.
R. C. Knowles, M.D.
H. A. Bowes, M.D.
Lawrence G. Behan, M.D.
R. B. Leander, M.D.

The Reference Committee recommends the acceptance of this report.

**REPORT OF THE BENEVOLENT FUND
COMMITTEE**

This Fund was originally established by the Auxiliary with annual donations from the State Medical Association for possible need that might necessitate some aid to a physician which the Association might furnish. After building this Fund to \$5,000.00, the Association took action to use this money for student loans, bearing interest at term rates.

The money now at hand in this Fund is as follows:

Government Bonds	\$ 3,000.00
Loans	5,500.00
Cash	2,498.37
	<hr/>
	\$10,998.37

There are fourteen loans in existence at this time and one loan has been paid back.

In 1959 a physician was helped with money from this Fund, on recommendation of his District, in the amount of \$600.00.

The Committee strongly feels that this Fund is very worthwhile in all its intents and purposes — and the use to which it is now being put is most creditable. We strongly urge the Association to continue its annual allotments and never rescind

its permanency.

Respectfully submitted,
BENEVOLENT FUND COMMITTEE
Wm. Donahoe, M.D., Chr.
J. C. Hagin, M.D.
F. C. Totten, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE

The program established approximately three years ago giving penicillin to medically indigent patients at a reduced cost is progressing very satisfactorily. It is hoped that every doctor who has an indigent patient with rheumatic fever will avail himself of this particular service. It has been the desire of the committee at the past two presentations of reports to the delegates that this privilege be extended to all rheumatic fever patients regardless of indigency or otherwise. The children seem to cooperate better with the treatments under these circumstances by taking one tablet each day rather than receiving shots. I wish to thank you and the other delegates for the cooperation in this program.

Respectfully submitted,
COMMITTEE ON RHEUMATIC FEVER
AND HEART DISEASE
John W. Argabrite, M.D., Chr.
H. W. Farrell, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON DIABETES

Some of the Districts conducted Diabetes Detection Programs during Diabetes Detection Week, but there was no organized activity on the part of the Committee on Diabetes or the State Association.

Respectfully submitted,
COMMITTEE ON DIABETES
Clifford Gryte, M.D., Chr.
M. E. Sanders, M.D.
T. J. Billion, Jr., M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON TUBERCULOSIS

No report submitted.

COMMITTEE ON TUBERCULOSIS
W. L. Meyer, M.D., Chr.
B. T. Lenz, M.D.
R. J. Bareis, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RADIO BROADCASTS AND TELECASTS

No meetings of this committee were held during the past year and no business pertaining thereto was brought to my attention during the business year of 1960-1961.

Respectfully submitted,
COMMITTEE ON RADIO BROADCASTS
AND TELECASTS
William Taylor, M.D., Chr.
P. S. Nelson, M.D.
K. A. Dregseth, M.D.
E. H. Peters, M.D.
R. A. Boyce, M.D.
F. D. Leigh, M.D.
S. B. Simon, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EDITORIAL COMMITTEE

The Editorial Committee, in canvassing out-of-state speakers, has had a good response and a total of 21 publications were received from out-of-state

speakers. These include many outstanding articles by such men as Dr. Alton Ochsner on "The Joy of Working," and Dr. William E. Adams on "Physiological Principals and Their Early Management of Chest Injuries," and numerous others. A higher proportion of papers from South Dakota physicians would be most appropriate in our State Journal. We recommend that all speakers of the district meetings be contacted by the secretaries of the respective districts for copies of the papers to be submitted to the State Journal for publication.

One of the most frequent criticisms received concerning the State Journal has been that of typographical errors. It is the considered opinion of the editor that this can be eliminated by: (a) at the printing level by the use of the same typesetter who should have some specialized experience with medical terminology and (b) at the publishing level by employing the services of a proof reader from one of the local colleges to correct any errors in copy before publication. These changes are strongly recommended.

Respectfully submitted,
EDITORIAL COMMITTEE
R. E. VanDemark, M.D., Chr.
B. O. Lindbloom, M.D.
J. A. Anderson, M.D.
Mary Price, M.D.
G. E. Tracy, M.D.
W. R. J. Kilpatrick, M.D.
Hugo Andre, M.D.
H. B. Munson, M.D.
R. F. Thompson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL LICENSURE

One meeting was held during the year at Rapid City to consider a change in the Basic Science Law, which would provide exemption of certain categories of M.D. specialists applying for certification by reciprocity. The Committee recommended to the Council that no change be considered at this time, due to the possibility of certifying unqualified practitioners.

The Board of Medical and Osteopathic Examiners held their two regular meetings during the year and a special meeting in September. The July meeting was held in Rapid City and the January meeting in Sioux Falls. Twenty physicians wrote the South Dakota Board examinations and twenty three physicians were licensed by reciprocity during the year.

Dr. R. A. Buchanan was named President of the Board and Dr. G. Robert Bartron was elected Secretary-Treasurer. Dr. B. F. King was appointed by the Governor as the new member of the Board.

A motion of the Board was adopted to ask a change in the Medical Practice Act providing for licensing fees of \$100 for reciprocity and \$50 for examination. The Council of the Association amended this motion to read \$90 for reciprocity and \$40 for examination; and legislation was passed at the last session of the legislature for such change.

Dr. Bartron and Dr. Buchanan attended the Federation of State Boards meeting in Chicago in February.

The Board moved to accept only permanent certificates from the Educational Council for Foreign Medical Graduates for consideration for admittance to the Medical Board examinations to obtain permanent licensure.

Respectfully submitted,
COMMITTEE ON MEDICAL LICENSURE
D. L. Kegaries, M.D., Chr.
G. Robert Bartron, M.D.
C. E. Kemper, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON VETERANS ADMINISTRATION AND MILITARY AFFAIRS

The Committee on Veterans Administration and Military Affairs has had no meeting during the past year. The Executive Committee is still carrying on negotiations for the Association with regard to fee schedules and re-establishing the former contract for home town care.

Respectfully submitted,
COMMITTEE ON VETERANS
ADMINISTRATION AND MILITARY
AFFAIRS

L. C. Askwig, M.D., Chr.

D. N. Fedt, M.D.

G. H. Steele, M.D.

T. J. Billion, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON THE SPAFFORD MEMORIAL FUND

The Dr. Frederick Angler Spafford Memorial Prize is awarded each year to that student who, in the opinion of the committee, has made the most satisfactory progress in the study of Latin, preferably Vergil. This prize was established by the South Dakota State Medical Association and other friends of Dr. Spafford in recognition of his many years of service as a member of the State Board of Regents of Education and especially of his interest in the study of the ancient classics. Amount, \$50.00. Awarded to Rosemary Hafner, Newell.

Respectfully submitted,
COMMITTEE ON THE SPAFFORD
MEMORIAL FUND

T. E. Eyres, M.D., Chr.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON PREPAYMENT AND INSURANCE PLANS

The members of the Committee on Prepayment and Insurance Plans have been active in Blue Shield through the Board of Directors during the past year.

There has been no unfinished old business or new business to be considered by the Committee.

Blue Shield is moving ahead in a satisfactory and sound manner with much progress during the year. An Annual Report will be sent to each physician prior to the annual meeting of the South Dakota State Medical Association and will be available at the time of the meeting of the corporate body.

Respectfully submitted,
COMMITTEE ON PREPAYMENT AND
INSURANCE PLANS

D. H. Breit, M.D., Chr.

H. Russell Brown, M.D.

Paul Hohm, M.D.

E. A. Johnson, M.D.

J. T. Elston, M.D.

B. F. King, M.D.

M. A. Auld, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RURAL MEDICAL SERVICE

This year on the 3rd, 4th, and 5th of February I attended the meeting of the Rural Health Planning Committee of the Council on Rural Health of the A.M.A. We met at the Palmer House in Chicago and there discussed problems that are not necessarily pertinent to rural health, but to help the people everywhere. One topic was "Care of the Aged"; another was on Socialized Medicine; the third on how to get doctors in Rural areas, which is a burning problem everywhere; and the fourth "Medical Training for Doctors and a Well Rounded

General Practice Internship for Rural Medical Doctors"; and finally a report from the Rural Health and Rural Health Education and Medicine as it was practiced in Kansas. We also had a very fine address on Nutritious, Fats, Vitamins, and the newer drugs.

There have been no special programs initiated this year in the state. The next National Rural Health Council is to be held in Salt Lake City, Utah, on the 3rd to the 8th of May. The committee chairman has been contacted to write a few articles for rural papers on some medical topic, such as Drug Poisonings, Poisonings from Weed Sprays, Farm Accidents, so that these may be published in Farm Journals, and other Farm Publications. The A.M.A. Department on Rural Health is anxious to get articles of about 500 words in length on topics written in a manner which would be interesting and informative to the rural people on medical subjects.

Respectfully submitted,
COMMITTEE ON RURAL MEDICAL
SERVICE

A. P. Peeke, M.D., Chr.

E. F. Kalda, M.D.

G. J. Bloemendaal, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON NURSING TRAINING

Students from Presentation Schools of Nursing in Aberdeen and Sioux Falls, Sacred Heart School of Nursing and the Department of Nursing, Augustana College, have had a total of 64 students in the Rural Nursing Program in 1960. These students have each had a six-weeks assignment in one of the following hospitals:

Community Bailey Hospital, Chamberlain, S. D.

Memorial Hospital, Gettysburg, S. D.

St. Michael's Hospital, Tyndall, S. D.

Memorial Hospital, Miller, S. D.

USPH Indian Hospital, Wagner, S. D.

The Advisory Committee has held two meetings — April 12th and September 28th.

At the April meeting, a sub-committee submitted some newly stated objectives of the Rural Nursing program as follows:

1. To provide an opportunity to observe Federal, State, County and City Government, particularly as it functions in matters of health.
2. To provide an opportunity to develop an accepting attitude toward patterns and customs within local communities.
3. To provide an opportunity to function within a less complex unit so that the student might see total interaction of hospital personnel.
4. To provide an opportunity to observe the patient as an integral part of his family and community.
5. To provide an atmosphere that will develop a continuing sense of responsibility and self assurance.

The working rules of the Advisory Committee were rewritten to bring us up to date.

At the September meeting the Presentation School of Nursing, Sioux Falls, announced its desire to withdraw from the program as they cannot fit it into their newly constructed curriculum. This was accepted by the committee.

Both Presentation School, Aberdeen, and Sacred Heart School wished to change their method of assigning students — to send larger blocks of students. This appears to be satisfactory and was accepted by the committee.

A survey is presently under way to learn from all former Rural Nursing students, their opinion of the program as they consider it in retrospect. Most of the answered questionnaires are now in the hands of the coordinator. In a few months the report will be completed. At the next Advisory Com-

mittee meeting it is expected that the members will review the report to determine whether or not it feels that Hospitals and Schools of Nursing benefit by the program.

The program has continued on successfully since 1955, but we believe it is time to look at it critically to consider its total value.

Respectfully submitted,
COMMITTEE ON NURSING TRAINING
 J. A. Muggly, M.D., Chr.
 C. L. Voegelé, M.D.
 D. J. Buchanan, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE CLINICAL PATHOLOGY COMMITTEE

The Clinical Pathology Committee has been active during the past year and its major efforts have been accumulating material to be sent out to participants in the Standards Program of the Clinical Pathology Committee. Approximately 15 different cases have now been accumulated and are in varying stages of preparation and will be distributed to the participants. A letter was sent out to all hospitals and physicians in August, 1960, and approximately 40 physicians and hospitals are participating in the Program. By May 5, 1961, eight hematological slides will have been distributed to the participants. Each slide is accompanied by a short history and the participants are asked to return an unsigned post card with their comments concerning the slides. Approximately 3 weeks after the slides have been sent out and the post cards have been returned, a critique is sent to all participants. The critiques have been prepared by a pathologist practicing in South Dakota. During the coming year it is hoped that Bacteriology, Blood Bank, and Biochemistry specimens can be added to the Standards Program.

SUPPLEMENTARY REPORT OF THE COMMITTEE ON CLINICAL PATHOLOGY

A workshop on hemoglobin, conducted by Dr. R. Rank, was held at the University of South Dakota School of Medicine at Vermillion on September 7-9, 1960.

A workshop in tissue technology will be conducted by Mr. Michael at the University of South Dakota School of Medicine at Vermillion, on May 25-27, 1961.

Respectfully submitted,
CLINICAL PATHOLOGY COMMITTEE
 W. A. Geib, M.D., Chr.
 R. L. Carefoot, M.D.
 A. K. Myrabo, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON REHABILITATION

The business of the committee has been handled by mail due to the distance of the members and a meeting is scheduled for 4:00 P.M. Monday, the 15th of May, 1961, at the East Room of the Cataract Hotel, Sioux Falls, S. D.

The pertinent matters that have come to attention are primarily in the realm of recommendation from Mr. Ben F. Hins, State Director of Vocational Rehabilitation who was contacted for any recommendations or suggestions that he might have to make. The points of Mr. Hins' recommendations pertain to the doctors who examine patients or clients of Vocational Rehabilitation and make recommendations. He particularly recommends that the doctor think in terms of what the patient's capabilities are and list these rather than limiting himself to listing only the specific limitations. The Division of Vocational Rehabilitation would be very appreciative of comments by the attending physician relative to what form of rehabilitation they might qualify for and that in

many instances the reports are too fragmentary and brief.

Another comment Mr. Hins had to make was that very often there are members of the medical profession that have not referred borderline cases and he has the feeling that there are numerous instances in which cases could be rehabilitated or helped through the Division of Rehabilitation that have not actually been referred.

The chairman of the committee addressed the State Meeting of the workers of Vocational Rehabilitation and the Department of Employment last month at their annual meeting here in Sioux Falls.

Respectfully submitted,
COMMITTEE ON REHABILITATION
 George W. Smith, M.D., Chr.
 R. E. Van Demark, M.D.
 Paul Bunker, M.D.
 D. Hillan, M.D.
 C. F. J. Blunck, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CIVIL DEFENSE

The Committee on Civil Defense has held no meetings and was not called upon by the State of South Dakota or the Counties for assistance or planning. Our executive secretary attended a medical mobilization meeting in Chicago on our behalf.

Respectfully submitted,
COMMITTEE ON CIVIL DEFENSE
 L. C. Askwig, M.D., Chr.
 G. J. Bloemendaal, M.D.
 D. C. Cameron, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE FOR IMPROVEMENT OF THE CARE OF THE PATIENT

This committee's main job has been to meet to discuss problems in this field with the South Dakota Joint Commission for the Improvement in Care of the Patient.

Our first meeting was in March of 1960, in Huron, S. D. This meeting concerned itself mainly with the hospital's problems with visitors, spreading of disease, and public relations of the hospitals.

The second 1960 meeting was September 28th in Huron again. General discussion of emergency admissions to hospitals was held. The question of the purpose of the joint commission was also raised here and it was decided to provide an entire program for the March 28, 1961, meeting on this subject.

The main program concerned Dr. R. H. Huffaker's work with the epidemiology section of the S. D. Department of Health. Dr. Huffaker discussed his plans to—1. promote local public health work on typhoid, brucellosis, and rabies. 2. Increase physicians' concern with reporting diseases. 3. Better control of hospital infections.

I feel that our group has been able to contribute a great deal to this Joint Commission work in our State. We are then better able to understand problems in nursing education, hospital administration, etc.; and, they, in turn, can see our side of the same problems.

Respectfully submitted,
COMMITTEE FOR IMPROVEMENT OF THE CARE OF THE PATIENT
 David J. Buchanan, M.D., Chr.
 V. R. Vonburg, M.D.
 M. Sanders, M.D.
 C. L. Voegelé, M.D.
 C. F. Gryte, M.D.
 J. A. Muggly, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON SCHOOL HEALTH

Your Committee on School Health submits the following report. Correspondence has been carried out with Dr. Van Heuvelen relative to the state forms and contagious disease charts.

The state examination form for routine school use has been revised and appears acceptable at the present time. Schools can obtain these forms by contacting the State Health Department.

The possibility of the state supplying the Academy of Pediatric Health Examination Form for children entering school was discussed and it was his feeling that it was not practical at this time. More extensive use of the routine form now supplied by the state would appear the best solution at present and could be worked out on a local level.

It still behooves us as physicians to see that more children have pre-school physicals and that a record of findings should be communicated to the school attended.

The State Health Department realizes that revisions in the communicable disease chart are in order but finances have made any revision at present impossible. In the chart the section on scarlet fever seems most in need of revision. In Sioux Falls, the chart has been revised after consultation with the City Health Officer and School Physician to allow return to school after one week if antibiotic therapy has been carried out and the physician sends written permission. Contacts are allowed to go to school with written permission if free of disease and receiving prophylactic penicillin. This procedure may or may not be applicable on a state basis and is not included in this report as a committee recommendation but merely as a statement of the policy used in the Sioux Falls School System.

The activation of district health committees should again be stressed with active participation in school health program planning. We are sure much more can and should be done to insure periodic examinations preferably by the family physician and much needs to be done to improve the transfer of the information to the school records.

Respectfully submitted,
COMMITTEE ON SCHOOL HEALTH
W. R. Anderson, M.D., Chr.
T. E. Eyres, M.D.
G. L. Tracy, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON BUDGET AND AUDIT

The 1959-1960 report of the committee with the recommended budget and audit of funds was presented to the House of Delegates at the 1960 annual meeting. The report was approved.

For the past two years, the Association's basic income from dues and the annual meeting have remained constant while the cost of operation has continued to increase.

The increased cost of operation is **not** a reflection of our move into the new headquarters building because salary redistributions have nearly compensated for the added cost of rent paid the building fund. The building, itself, is paying its own way.

The increased cost of operation stems from the desire of our organization to conduct more and more activities particularly in the field of medical economics. Areas where we are exceeding our budgeted amounts for expenditures are in office supplies (printing), the annual meeting, Auxiliary newsletter, and travel.

In the first ten months of the fiscal year, Association income was \$31,837.51 and expenditures were \$39,056.18. This picture should improve a little as 1961 dues come in during the last two months of the fiscal year but there still is a deficit

situation with no money being added to reserves.

Our group insurance programs have produced a slight balance on an income of \$29,271.50 and expenditures of \$27,318.14. However, most of the balance is embodied in advance premium payments so is not available to the Association.

The Journal has taken over the salary reductions noted in the Association operation and for the first ten months of the fiscal year has had a cash income of \$34,366.05 plus accounts receivable of \$4,000.00. It has had expenditures totaling \$39,002.86.

The Building Fund, in the ten months, has received \$6,375.00 and has paid out interest of \$1,919.30; janitor services, \$298.92; utilities, \$846.56; totaling \$3,064.78. In addition we have paid off building loans totaling \$490.16.

Confronted with these facts and figures, your committee will have to give serious consideration to a number of things before a budget can be proposed and recommended for the next fiscal year.

Our organization is no longer a small business, and with the increasing cost of operation and the necessity of a stepped-up legislative program, we will need increased revenue. This is not just our state society alone but also the situation of our parent organization, the AMA. The AMA House of Delegates has recommended an increase of \$10.00 per year in dues for the next two years to meet the proposed added expenditures.

Your committee feels that the House of Delegates of the South Dakota State Medical Association should devise some way to increase the revenue to tide us over this crucial time.

The audit will be prepared by a Certified Public Accountant and will be presented to the House of Delegates during the annual meeting in Sioux Falls.

Respectfully submitted,
COMMITTEE ON BUDGET AND AUDIT
A. P. Reding, M.D., Chr.
C. Rodney Stoltz, M.D.
A. K. Myrabo, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON AGING

During the first two or three months of this committee-year, members of this committee were frequently called upon to participate in local and State programs on aging. Thereafter, the function and use of the committee on aging has been virtually nil. The reason: political use of the issue, and political frigidity toward organized medicine on the issue of aging.

Nevertheless, we feel we have played a significant role in informing the public and creating enthusiasm toward the care of the aging people, at local levels in South Dakota.

While the committee, itself, has not been active for the last several months, the Association's activities became legislative in nature as we pushed for the Old Age Assistance Medical Care Program on a state-wide basis. This program has been implemented by the Legislature and currently our Executive Secretary is negotiating with State officials for the orderly conception of the program in July.

Respectfully submitted,
COMMITTEE ON AGING
Warren Jones, M.D., Chr.
C. F. Johnson, M.D.
R. J. Bareis, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CORONER'S LAW

Correspondence was held with the Legislative Research Council in an attempt to have them study

a Coroner's Bill for the 1961 Session of the Legislature, however, they were unable to do so.

Correspondence and conferences were held with several members of the State Bar Association. While they are interested in the idea of studying the proposed Coroner's Law they could not endorse the model law proposed by the present committee of the South Dakota State Medical Association until it is acted upon at an Annual Convention of the Bar Association. The Council of the South Dakota State Medical Association did not wish to introduce the Committee's proposed Coroner's Law for the 1961 session of the Legislature. It is hoped that further efforts can be made in an attempt to secure passage of a new Coroner's Law by the 1963 session of the Legislature. It is hoped that a meeting can be arranged with the State Bar Association and that hearings can be arranged before the Legislative Research Council.

Respectfully submitted,
COMMITTEE ON CORONER'S LAW
W. A. Geib, M.D., Chr.
R. L. Carefoot, M.D.
R. H. Hayes, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON TRAFFIC SAFETY

No formal meetings of the Traffic Safety Committee were held this past year.

The Committee was represented at meetings of the Governor's Traffic Safety Committee.

The Committee did express its views to state legislative committees which were concerned with legislation relating to traffic safety.

Respectfully submitted,
COMMITTEE ON TRAFFIC SAFETY
J. J. Stransky, M.D., Chr.
R. L. Lillard, M.D.
H. L. Saylor, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON THE MEDICAL LEGAL CONFERENCE

A Medical Legal Conference was held in Sioux Falls, September 24 and 25, 1960, with 148 attorneys and physicians in attendance. The AMA provided two attorneys from their Legal Department to appear on the program, and the other speakers were physicians and attorneys from within the State.

The members in attendance at this meeting voted to take back to their respective organizations a plan to enact a Medical Expert Panel for malpractice cases. The purpose is to have a panel of physicians available for consultations with attorneys of the Bar Association for pre-suit expert opinion; and where a suit is instituted, for testimony as an expert witness. Such a panel is to be used only for cases of alleged medical malpractice.

Respectfully submitted,
COMMITTEE ON MEDICAL LEGAL CONFERENCE
C. L. Swanson, M.D., Chr.
Ted Hohm, M.D.
O. P. Erickson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE LIAISON COMMITTEE WITH THE SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION

The Liaison Committee with the South Dakota Pharmaceutical Association had one meeting in Pierre, South Dakota, December 18, 1960. Unfortunately weather did not permit attendance of two other members so Executive Secretary John Foster, and the Chairman handled the business on hand by telephone.

The Pharmaceutical Association requested that the committee present the proposed Pharmacy Association action to the House of Delegates. This is done in accordance with the spirit of committee co-operation.

No major problems have arisen during the year and we recommend continued close co-operation with the Pharmaceutical Association.

Respectfully submitted,
COMMITTEE ON LIAISON WITH THE
SOUTH DAKOTA PHARMACEUTICAL
ASSOCIATION
R. H. Hayes, M.D., Chr.
P. P. Brogdon, M.D.
J. N. Berbos, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RADIO AND PRESS

To my knowledge there has been no meeting of this committee and no actual information on the need of any meeting has been brought before me.

Respectfully submitted,
COMMITTEE ON RADIO AND PRESS
P. P. Brogdon, M.D., Chr.
Steve Brzica, M.D.
E. A. Rudolph, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE AMEF COMMITTEE

The A.M.E.F. Committee again conducted a letter solicitation type of campaign. The results were fair although perhaps it would be worthwhile for the committee to consider some additional appeal in the coming year. 163 South Dakota physicians and wives contributed \$6,700.75 to A.M.E.F. during the past year. Perhaps if each district chairman would make it a point to bring the need to the attention of the members at the district meetings it might give a little more body to our mailing campaign. Again we wish to recognize the efforts of Mr. Foster and the National committee in this campaign. Contribution direct to the school through Alumni was \$4,127.50. AMEF grant to the U. of S. D. School of Medicine for 1960 amounts to \$8,425.91.

Respectfully submitted,
AMEF COMMITTEE
S. F. Sherrill, M.D., Chr.
Vernon Cutshall, M.D.
O. J. Mabee, M.D.
H. L. Saylor, M.D.
J. H. DeGeest, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON INDIGENT CARE

The Committee met once during the year, in December, at which time it reaffirmed its support for a state-wide medical care program for recipients of categorical assistance, with utilization of state and federal funds.

The committee further recommended that any such state-wide program be accepted subject to recipients being granted free choice of physician and that a state-wide fee schedule be included in the program.

The committee further recommended that professional supervision of the program be utilized to the end that safeguards may be instituted to eliminate waste and guarantee the quality and quantity of care.

It was also recommended that assisting agencies be utilized in the administration of the program and to this end the Association offers the services of its executive office and Blue Shield.

Other recommendations of the committee included approval of the Medical Assistance for the Aged program, provided that the categorical med-

ical assistance program would be accepted first and further that a reduced fee schedule be offered the Welfare Department. These recommendations were forwarded to the Council and the Legislative Committee, and included in the Association's legislative program.

Since that time, much of the activity in the area of indigent care has been carried on by Dr. A. A. Lampert at the request of certain legislators, and by the executive office staff.

Legislation setting up an Old Age Assistance plan and appropriating money therefor was presented during the session. Implementation of this program, along the lines of the recommendations of this committee, is currently being negotiated with the Welfare Department. An Advisory Committee to the Welfare Department on this particular program has been authorized by the Governor, and two members of the Association's committee have been nominated for consideration as a member of that committee.

The committee recommends to the House of Delegates that it authorize the Council of the Association to formulate a strong resolution, addressing it to the Governor and the Welfare Commission, concerning final implementation of the O.A.A. Medical Care Program, along the lines of the committee's recommendations.

Respectfully submitted,
COMMITTEE ON INDIGENT CARE
H. P. Adams, M.D., Chr.
A. P. Peeke, M.D.
H. Russell Brown, M.D.
R. E. Greenfield, M.D.
R. F. Hubner, M.D.
C. A. Johnson, M.D.
E. J. Perry, M.D.
M. M. Morrissey, M.D.

The Reference Committee has read the report of the Committee on Indigent Care. It is the opinion of the Reference Committee that the Committee on Indigent Care be commended for the prodigious task which they have undertaken. We recommend the acceptance of their report with the recommendation that the Council be directed to establish a State review committee and that District, area, and local review committees be established and further encourage physicians to participate in the OAA Medical Care Program.

REPORT OF THE COMMITTEE ON WORKMEN'S COMPENSATION

The committee on Workmen's Compensation does not have a great deal to report. A conclusion was reached that the whole set up relative to the State Workmen's Compensation program should be carefully reviewed and many revisions are indicated.

A major block was encountered in attempting to get anything accomplished. In order to review and over-haul a program such as Workmen's Compensation it is necessary to work closely with the Industrial Commissioner and with his department. However, following the elections in the fall of 1960 I was unable to get any response or cooperation from the Industrial Commissioner, who, of course, was leaving office.

It was felt that instead of trying to introduce legislation for minor changes the problem should be investigated more thoroughly and the advice of the new Industrial Commissioner should be obtained. In the State of South Dakota the governor appoints the Industrial Commissioner, who is the Attorney General of the State of South Dakota, and he serves during his term of office. This may limit the term of office to a period of two years and it takes at least two years for an individual to become acquainted with the duties and functions of the office of Industrial Commissioner. Before anything can really be accomplished in making necessary changes in the Workmen's Compensation laws the office of Industrial Com-

missioner should be a separate appointment from that of Attorney General and the term of office should be at least 6 years.

Mr. Foster discussed with the Attorney General, Mr. Miller, how these changes can be accomplished and after some research it was felt that this can be accomplished by action of the legislature, without any changes in constitution or bylaws. Most states, as far as I know, have a term of at least six years and a specific set of duties for the Industrial Commissioner which includes bi-annual reports. These reports to the Governor cover expenses and activities of the office during the preceding two years, together with recommendations for changes or amendments to the laws.

The Workmen's Compensation Committee should make an early effort to meet and work closely with the new Industrial Commissioner and also with representatives of the Employers Group and Compensation Carriers to review the whole problem and prepare the necessary recommendations for changes in the law, for presentation before the next term of the legislature. The nature of the changes and improvements is pretty well known to most of us. The scope and the details will have to be more carefully worked out. There probably should be several revisions before the next legislative session. Every effort should be made to get the Attorney General to appoint a Deputy Commissioner who is well qualified and instruct him to study and devote enough time and research to the problem so that he can come up with a good, constructive program. There will have to be a lot of close cooperation between the Workmen's Compensation Committee and the Deputy Commissioner in working out the proposed changes in the program.

Respectfully submitted,
COMMITTEE ON WORKMEN'S
COMPENSATION
R. R. Giebink, M.D., Chr.
H. J. Bartron, M.D.
H. R. Lewis, M.D.

The Reference Committee recommends the acceptance of this report.

DISTINGUISHED SERVICE AWARDS

Started in 1951

- 1952—H. Russell Brown, M.D., Watertown
- 1953—Guy Van Demark, M.D., Sioux Falls
- 1954—J. C. Ohlmacher, M.D., Vermillion
(deceased)
- 1955—R. G. Mayer, M.D., Aberdeen (deceased)
- 1956—J. C. Ohlmacher, M.D., Vermillion
(deceased)
- 1957—W. E. Donahoe, M. D., Sioux Falls
- 1957—Mrs. Lucille Dory, Watertown
- 1958—Drs. J. C. Hagin, M. W. Pangburn, and
James DeGeest, Miller
- 1958—J. F. Brenckle, M.D., Superior, Wisc.
(deceased)
- 1958—Mrs. Agnes Holdridge, Madison
- 1959—Walter L. Hard, Ph. D., Vermillion
- 1959—Rev. and Mrs. Robert O. Bates, Sturgis
- 1959—R. M. Kilgard, M.D., Watertown
(Deceased)
- 1960—L. J. Pankow, M.D., Sioux Falls
- 1961—Gregg M. Evans, Ph.D., Custer

FIFTY YEAR CLUB MEMBERS

J. L. Chassell, M.D., Belle Fourche
 F. L. Class, M.D., Huron (deceased)
 M. E. Cogswell, M.D., Wolsey (deceased)
 J. Cook, M.D., Bonesteel
 V. W. Embree, M.D., Pierre
 W. D. Farrell, M.D., Aberdeen
 F. W. Freyberg, M.D., Mitchell
 E. E. Gage, M.D., Sioux Falls
 E. H. Grove, M.D., Arlington (deceased)
 Lyle Hare, M.D., Spearfish
 J. A. Hohf, M.D., Yankton
 F. S. Howe, M.D., Deadwood (deceased)
 A. H. Hoyne, M.D., Salem (deceased)
 A. S. Jackson, M.D., Rapid City
 R. J. Jackson, M.D., Hot Springs
 J. A. Jacotel, M.D., Milbank (deceased)
 G. T. Jordan, M.D., Vermillion (deceased)
 F. F. Keene, M.D., Wessington Springs
 (deceased)
 B. C. Murdy, M.D., Aberdeen
 N. T. Owen, M.D., Rapid City
 R. J. Quinn, M.D., Sioux Falls
 T. F. Riggs, M.D., Pierre
 H. L. Saylor, M.D., Huron (deceased) *L.F.C. Totten, M.D., Lemmon*
 F. W. Valkenaar, M.D., Chancellor
 H. P. Volin, M.D., Lennox *G.E. Van Demark, Sioux Falls*
 C. H. Weishaar, M.D., Aberdeen
 O. R. Wright, M.D., Huron (deceased)
 Goldie Zimmerman, M.D., Missoula, Montana

LOUIS C. DICK, M.D.
1885—1961


Dr. Louis C. Dick, for 45 years in practice at Spencer, South Dakota, passed away on Sunday, May 14, after having been in ill health over the last several years.

Dr. Dick was the son of David and Martha Dick, who lived in Huron when he was born on August 8, 1885. As a youngster, the family moved to a farm near Hawarden, Iowa, where he received his elementary education. He graduated from Hahneman Medical Institute in Chicago in 1909, and then practiced in Ireton and Rembrandt, Iowa, before opening his practice in Spencer.

He married Miss Sara Jane Farrand at Ireton, Iowa, in June of 1913. The doctor is survived by the widow, one daughter of New Prague, Minnesota, two sisters, and a brother.


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South Dakota State Medical Association Roster-1961

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ABERDEEN DISTRICT No. 1

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Sec., B. C. Gerber, M.D.

Alway, J. D. _____ Aberdeen
Avotins, R. _____ Faulkton
Berbos, J. N. _____ Aberdeen
Berzins, R. _____ Bowdle
Bloemendaal, G. J. _____ Ipswich
Bormes, R. E. _____ Aberdeen
Bowes, H. Angus _____ Aberdeen
Bunker, P. G. _____ Aberdeen
Calene, J. L. _____ Aberdeen
Cooley, F. H. _____ Aberdeen
Currie, K. P. _____ Britton
Damm, W. P. _____ Redfield
Drissen, E. M. _____ Britton
Driver, I. _____ Aberdeen
Eckrich, J. A. _____ Aberdeen
*Farrell, W. D. _____ Aberdeen

Gerber, B. C. _____ Aberdeen
Gilbert, J. E. _____ Aberdeen
Graff, L. W. _____ Britton
Hagan, A. S. _____ Faulkton
Keegan, Agnes _____ Aberdeen
King, B. F. _____ Aberdeen
Krijger, P. _____ Groton
Leon, Paul _____ Aberdeen
Marvin, T. R. _____ Faulkton
Murdy, B. C. _____ Aberdeen
Murdy, C. B. _____ Aberdeen
Murdy, Robert C. _____ Aberdeen
McCarthy, P. V. _____ Aberdeen
McIntosh, G. F. _____ Eureka
Norgello, V. _____ Redfield
Patterson, D. _____ Redfield

Perry, E. J. _____ Redfield
Pfisterer, T. R. _____ Redfield
Ralston, L. S. _____ Aberdeen
Rank, R. K. _____ Aberdeen
Rodine, J. C. _____ Aberdeen
Rudolph, E. A. _____ Aberdeen
Sanders, M. E. _____ Redfield
Schabauer, E. A. _____ Hoven
Scheffel, A. _____ Redfield
Steele, G. H. _____ Aberdeen
Taylor, Wm. R. _____ Aberdeen
Vogele, A. C. _____ Aberdeen
Vogele, C. L. _____ Aberdeen
*Weishaar, C. E. _____ Aberdeen
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Bartron, H. J., Jr. _____ Watertown
Brewster, C. B. _____ Watertown
Brown, H. Russell _____ Watertown
Clark, C. J. _____ Watertown

Fedt, D. _____ Watertown
Huppler, E. G. _____ Watertown
Maxwell, R. T. _____ Clear Lake
Nelson, P. S. _____ Watertown
Nelson R. A. _____ Watertown
Reul, T. _____ Watertown
Rousseau, M. C. _____ Watertown
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*Schieb, A. P. _____ Watertown
Stoltz, C. R. _____ Watertown
Stransky, J. J. _____ Watertown
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Davidson, M. _____ Brookings
Friefeld, S. _____ Brookings
Henry, Robert _____ Brookings
Hillan, D. D. _____ Madison
Hura, R. _____ Howard

Kershner, C. M. _____ Brookings
Marr, Liselotte _____ Estelline
Marr, Valentine _____ Estelline
Muggly, J. A. _____ Madison
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Patt, W. H. _____ Brookings
Peeke, A. P. _____ Volga
Plowman, E. T. _____ Brookings
Reagan, J. L. _____ Madison

Roberts, C. S., Jr. _____ Brookings
Scheller, D. L. _____ Arlington
Tank, M. _____ Brookings
Turner, C. R. _____ Brookings
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Westaby, J. R. _____ Madison
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Cowan, J. T. _____ Pierre
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Horthy, A. _____ Kennebec
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Illig, K. M. _____ Pierre
Jahraus, R. C. _____ Pierre

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Huet, G. M. _____ Huron
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Fritz, W. H. _____ Mitchell
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Mabee, D. R. _____ Mitchell
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McCann, J. P. _____ Parkston

Mueller, E. H. _____ Tripp
Peiper, W. A. _____ Mitchell
Porter, M. H. _____ Parkston
Skogmo, B. R. _____ Mitchell
Tobin, F. J. _____ Mitchell
Vonburg, V. R. _____ Mitchell
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Anderson, T. R. _____ Sioux Falls
Anderson, W. R. _____ Sioux Falls
Angelos, T. _____ Canton
Arneson, W. A. _____ Sioux Falls
Aspaas, P. K. _____ Dell Rapids
Bankead, J. H. _____ Sioux Falls
Barnett, G. L. _____ Sioux Falls
Becker, S. _____ Sioux Falls
Billion, T. J., Jr. _____ Sioux Falls
Breit, D. H. _____ Sioux Falls
Brzica, S. M. _____ Sioux Falls
Burns, E. A. _____ Sioux Falls
Burns, K. R. _____ Sioux Falls
*Carney, M. _____ Kansas
Chalmers, J. H. _____ Sioux Falls
Church, W. G. _____ Sioux Falls
Clark, J. C. (deceased) _____ Sioux Falls

Cottam, G. I. W. _____ Sioux Falls
Cutshall, V. H. _____ Sioux Falls
Cutshall, V. K. _____ Sioux Falls
de Almeida, M. J. _____ Viborg
de Boer, A. _____ Lennox
Devick, J. C. _____ Colton
DeWitt, W. _____ Sioux Falls
Dickinson, J. _____ Canistota
Donahoe, J. W. _____ Sioux Falls
Donahoe, R. R. _____ Sioux Falls
Donahoe, S. A. _____ Sioux Falls
Donahoe, W. E. _____ Sioux Falls
Driver, D. R. _____ Sioux Falls
Duimstra, F. _____ Sioux Falls
Eirinberg, I. _____ Sioux Falls
Ensberg, D. _____ Sioux Falls
Epp, D. _____ Freeman
Erickson, E. G. _____ Sioux Falls
Erickson, O. P. _____ Valley Springs
Farrell, H. W. _____ Sioux Falls

Ferrell, M. R. _____ Sioux Falls
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*Fisk, R. R. _____ Flandreau
Frost, D. M. _____ Sioux Falls
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Giebink, R. R. _____ Sioux Falls
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Greenfield, D. _____ Sioux Falls
Greenfield, R. E. _____ Sioux Falls
Greenough, E. E. _____ Sioux Falls
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Hosen, R. S. _____ Sioux Falls
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Jameson, G. M. _____ Sioux Falls
Janis, J. B. _____ Sioux Falls
Jones, W. L. _____ Sioux Falls
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Kaufman, I. I. _____ Freeman
Kaul, Lothar _____ Sioux Falls
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Mongeon, C. J. _____ Sioux Falls
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Myrabo, A. K. _____ Sioux Falls

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McGreevy, J. V. _____ Sioux Falls
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Ogborn, R. J. _____ Sioux Falls
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Opheim, W. L. _____ Sioux Falls
Pankow, L. J. _____ Sioux Falls
Parke, L. L. _____ Canton
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Peik, D. J. _____ Sioux Falls
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*Quinn, R. J. _____ Sioux Falls
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*Zimmerman, Goldie E. _____ Missoula, Montana

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Treas., R. J. Foley, M.D.

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Andre, H. C. _____ Vermillion
Auld, Marian _____ Yankton
Auld, M. A. _____ Yankton
Behan, Lawrence _____ Yankton
Berg, S. _____ Tyndall
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Fairbanks, W. H. _____ Vermillion
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Glood, D. _____ Viborg

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*Hohf, J. A. _____ Yankton
Honke, R. W. _____ Wagner
Hubner, R. F. _____ Yankton
Johnson, C. F. _____ Yankton
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Kleinsasser, G. _____ Scotland
Kramer, R. K. _____ Yankton
Lyso, M. _____ Yankton
McVay, C. B. _____ Yankton

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Price, Ronald _____ Armour
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Reaney, D. B. _____ Yankton
Reding, A. P. _____ Marion
Sattler, T. H. _____ Yankton
Stanage, W. F. _____ Yankton
Steele, J. P. _____ Yankton
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Bobeck, C. J. _____ Rapid City
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Bray, R. B. _____ Rapid City
Brownell, M. D. _____ Rapid City
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*Byrne, J. R. _____ Edgemont
Cameron, D. E. _____ Rapid City
*Chassell, J. L. _____ Belle Fourche
Chu, C. L. _____ Ill.
Clark, B. S. _____ Spearfish
Clark, C. A. _____ Lead
Cline, J. A. _____ Rapid City
Cook, W. S. (M.S.) _____
*Crane, H. L. _____ Washington, D. C.
Crowder, R. _____ Rapid City
D'Arata, E. J. _____ New Underwood
Dulaney, C. H. _____ Ft. Meade
Dzintars, P. F. _____ Faith
Elston, J. T. _____ Rapid City
Feehan, J. J. _____ Rapid City
Finley, R. C. _____ Rapid City
*Fleeger, R. R. _____ Lead
Geib, W. A. _____ Rapid City
Gilbert, F. J. _____ Belle Fourche
Grau, H. J. _____ Rapid City
Hamm, J. N. _____ Sturgis

Hare, H. J. _____ Rapid City
Hare, Lyle _____ Spearfish
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Heinzen, F. J. (M.S.) _____
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*Jackson, A. S. _____ Rapid City
*Jackson, R. J. _____ Rapid City
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Jones, R. S. _____ Rapid City
Jones, W. E. _____ Sturgis
Kegaries, D. L. _____ Rapid City
Kelly, W. T. (M.S.) _____
Koren, P. H. _____ Rapid City
Kovarik, R. A. _____ Rapid City
Kucera, W. _____ Lead
Lampert, A. A. _____ Rapid City
Leeds, J. F. _____ Hot Springs
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Lydiatt, J. _____ Hot Springs
Marousek, M. _____ Belle Fourche
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Mead, T. _____ Spearfish
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*Owen, N. T. _____ Rapid City
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Hayes, R. H. _____ Winner
Lakstigala, Peter _____ White River

Lenz, B. _____ Rosebud
Lillard, R. L. _____ Winner
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Nelson, M. (M.S.) _____ Rosebud
Roesel, R. W. _____ Winner

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Janavs, V. _____ Milbank
Johnson, E. A. _____ Milbank
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Karlins, W. H. _____ Webster
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Keller, L. W. _____ Webster
Lie, Dagfinn _____ Webster
Lovering, J. _____ Sisseton
Peabody, P. D., Jr. _____ Sisseton
Zeidak, O. _____ Waubay

South Dakota State Medical Association Roster-1961

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 Erickson, O. P. _____ Valley Springs
 Eyres, T. E. _____ Vermillion
 Fairbanks, W. H. _____ Vermillion
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 *Farrell, W. D. _____ Aberdeen
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 *Fisk, R. R. _____ Flandreau
 *Fleeger, R. B. _____ Lead
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 *Gage, E. E. _____ Sioux Falls
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 Gerber, B. C. _____ Aberdeen
 Gere, R. G. _____ Mitchell

Gerrish, E. W. _____ Mobridge
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 Gilbert, J. E. _____ Aberdeen
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 Graff, L. W. _____ Britton
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 Greenough, E. E. _____ Sioux Falls
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 Gryte, C. F. _____ Huron
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 Jameson, G. M. _____ Sioux Falls
 Janavs, V. _____ Milbank
 Janis, J. B. _____ Sioux Falls
 Johnson, C. A. _____ Lemmon
 Johnson, C. F. _____ Yankton
 Johnson, E. A. _____ Milbank
 Jones, R. S. _____ Rapid City
 Jones, W. E. _____ Sturgis
 Jones, W. L. _____ Sioux Falls
 Judge, W. T. _____ Milbank
 Kahler, E. S. _____ Sioux Falls
 Kalda, E. F. _____ Platte
 Karlins, W. H. _____ Webster
 Kass, Joseph _____ Rosholt
 Kaufman, I. I. _____ Freeman
 Kaul, Lothar _____ Sioux Falls
 Kegan, Agnes _____ Aberdeen
 Kegaries, D. L. _____ Rapid City

Keller, L. W. Webster
 *Keller, S. A. California
 Kelly, W. T. (M.S.)
 Kemper, C. E. Viborg
 Kershner, C. M. Brookings
 Kilpatrick, W. R. J. Huron
 King, B. F. Aberdeen
 King, L., Jr. Sioux Falls
 Kittelson, H. O. Sioux Falls
 Klar, W. Geddes
 Kleinsasser, G. Scotland
 Knowles, R. C. Sioux Falls
 Kohlmeier, F. C. Sioux Falls
 Koren, P. H. Rapid City
 Kovarik, R. A. Rapid City
 Kramer, R. K. Yankton
 Krijger, P. Groton
 Kucera, W. Lead
 Lakstigala, Peter White River
 Lampert, A. A. Rapid City
 Larson, C. S. Sioux Falls
 Leander, R. B. Sioux Falls
 Leeds, J. F. Hot Springs
 Leigh, F. D. Huron
 Lenz, B. T. Huron
 Lenz, B. W. Rosebud
 Leon, Paul Aberdeen
 Leraan, L. G. Sioux Falls
 Lewis, H. R. Mitchell
 Lewis, J. R. (M.S.)
 Lie, Dagfinn Webster
 Lietzke, E. T. Beresford
 Lillard, R. L. Winner
 Lindbloom, B. O. Pierre
 Lindholm, D. D. (M.S.)
 Lloyd, J. H. Mitchell
 Lloyd, J. H., Jr. Mitchell
 Lovering, J. Webster
 Logan, R. W. N. Mexico
 Lowe, H. E. Mobridge
 Lowe, J. A. Mobridge
 Lydiatt, J. Hot Springs
 Lyso, M. Yankton
 Mabee, D. R. Mitchell
 Mabee, O. J. Mitchell
 MacDonald, R. G. Lemmon
 Malters, E. H. Illinois
 Mangulis, G. Phillip
 Manning, D. H. Sioux Falls
 Maresh, E. R. Sioux Falls
 Marousek, M. Belle Fourche
 Marr, L. Estelline
 Marr, V. Estelline
 Marvin, T. R. Faulkton
 Mattice, Lloyd Sioux Falls
 Mattox, N. E. Deadwood
 Maxwell, R. T. Clear Lake
 Mead, T. Spearfish
 Merryman, M. P. Rapid City
 Meyer, W. L. Hot Springs
 Millea, R. P. Rapid City
 *Mills, G. W. Wall
 Minkel, R. M. Colorado
 Mongeon, C. J. Sioux Falls
 Moore, E. J. Vermillion
 Morrissey, M. M. Pierre
 *Morse, W. E. Rapid City
 Mueller, E. H. Tripp
 Muggly, J. A. Madison
 Munson, H. B. Rapid City
 Murdy, B. C. Aberdeen
 Murdy, C. B. Aberdeen
 Murdy, R. C. Aberdeen
 Murphy, J. C. Murdo
 Mutch, M. G. Sioux Falls
 Myrabo, A. K. Sioux Falls
 McCann, J. P. Parkston
 McCarthy, P. V. Aberdeen
 McCroskey, R. C. Rapid City
 McDonald, C. J. Sioux Falls
 McGreevy, E. J. Sioux Falls
 McGreevy, J. V. Sioux Falls

McHardy, B. R. Sioux Falls
 McIntosh, G. F. Eureka
 McManus, T. B. Wess. Springs
 McVay, C. B. Yankton
 Nelson, M. H. (M.S.)
 Nelson, P. S. Watertown
 *Nelson, J. A. California
 Nelson, R. A. Watertown
 Nelson, R. E. Sioux Falls
 Nieher, W. C. (M.S.)
 Nolan, B. P. Mobridge
 Norgello, V. Redfield
 Nozik, H. I. (M.S.)
 Ogborn, R. J. Sioux Falls
 Olson, R. G. Sioux Falls
 Opheim, W. L. Sioux Falls
 Orgusaar, R. Florida
 Otey, B. T. Flandreau
 O'Toole, T. F. Rapid City
 Owen, G. S. Rapid City
 *Owen, N. T. Rapid City
 Palmerton, E. S. Rapid City
 Pangburn, M. W. Miller
 Pankow, L. J. Sioux Falls
 Parke, L. L. Canton
 Pasek, E. A. Sioux Falls
 Patt, W. H. Brookings
 Patterson, D. Redfield
 Paulson, G. S. Rapid City
 Peeke, A. P. Volga
 Peabody, P. D., Jr. Sisseton
 Peik, D. J. Sioux Falls
 Peiper, W. Mitchell
 Pemberton, M. O. Rapid City
 Perry, E. J. Redfield
 Peters, E. H. Sioux Falls
 Petres, A. Salem
 Pfisterer, T. R. Redfield
 Phillips, R. K. Calif.
 Plowman, E. T. Brookings
 Pokorny, J. F. Newell
 Porter, M. H. Parkston
 Price, Mary Kentucky
 Price, Ronald Armour
 Quinn, R. H. Sioux Falls
 *Quinn R. J. Sioux Falls
 Ralston, L. S. Aberdeen
 Rank, R. K. Aberdeen
 Ranney, Brooks Yankton
 Reagan, J. L. Madison
 Reagan, P. R. Sioux Falls
 Reaney, D. B. Yankton
 Reding, A. P. Yankton
 Reifel, A. Sioux Falls
 Ressel, G. J. Lead
 Reul, T. W. Watertown
 Richie, J. L. Rapid City
 *Riggs, T. F. Pierre
 Roberts, C. S., Jr. Brookings
 Rodine, J. C. Aberdeen
 Roesel, R. W. Winner
 Roper, C. E. Hot Springs
 Rousseau, M. C. Watertown
 Rudolph, E. A. Aberdeen
 Ryan, C. F. Watertown
 Salladay, I. R. Sanator
 Sanders, M. E. Redfield
 Sanderson, E. W. Sioux Falls
 Sattler, T. H. Yankton
 Saxton, A. J. Rapid City
 Saxton, W. H. Huron
 Saylor, H. L., Jr. Huron
 Schabauer, E. A. Hoven
 Shaeffer, J. H. Sioux Falls
 Scheffel, A. Redfield
 *Scheib, A. P. Watertown
 Scheller, D. L. Arlington
 Sebring, F. U. Martin
 Semones, A. Jr. Lead
 Sercl, W. F. Sioux Falls
 Sherrill, S. F. Belle Fourche

Shreves, H. Sioux Falls
 Simons, S. Pierre
 Skogmo, B. R. Mitchell
 Slingsby, J. B. Rapid City
 Smiley, J. C. Deadwood
 Smith, G. W. Sioux Falls
 Spain, M. L. Rapid City
 Spears, B. Pierre
 Spiry, A. W. Mobridge
 Sprosts, K. Martin
 Stahmann, F. S. Sioux Falls
 Stanage, W. F. Yankton
 Steele, G. H. Aberdeen
 Steele, J. P. Yankton
 Steiner, P. Sioux Falls
 Stern, C. A. Sioux Falls
 Stiehl, R. L. Burke
 Stoltz, C. R. Watertown
 Stone, D. Q. (M.S.)
 Stransky, J. J. Watertown
 Strauss, B. Parker
 Studenberg, D. Gregory
 Studenberg, J. E. Winner
 Sullivan, W. S. (M.S.)
 Sundet, N. J. Kadoka
 Swanson, C. L. Pierre
 Sweet, E. P. Burke
 Tank, M. C. Brookings
 Taylor, Wm. R. Aberdeen
 Theissen, H. H. Rapid City
 Thompson, R. F. Yankton
 Tidd, J. T. Yankton
 Tobin, F. J. Mitchell
 Torkildson, G. McLaughlin
 Totten, F. C. Lemmon
 Tracy, G. E. Watertown
 Tschetter, P. S. Huron
 Turner, C. R. Brookings
 Urbanyi, E. W. Gettysburg
 *Van Demark, G. E. Sioux Falls
 Van Demark, R. E. Sioux Falls
 Van Heuvelen, G. J. Pierre
 Van Lier, P. C. Sioux Falls
 Venables, A. Watertown
 Villa, J. P. Freeman
 Voegel, A. C. Aberdeen
 Voegel, C. L. Aberdeen
 Volin, H. P. Lennox
 Volin, V. V. Sioux Falls
 Vonburg, V. R. Mitchell
 Vose, J. L. Mitchell
 Voss, E. P. Ft. Pierre
 Wall, D. W. (M.S.)
 Walters, S. J. Watertown
 Watson, E. S. Brookings
 *Weishaar, C. E. Aberdeen
 Werthmann, H. Pierre
 Wassman, N. E. Sioux Falls
 Westaby, J. R. Madison
 Westby, R. S. Jr. Rapid City
 Westland, G. I. Onida
 White, F. T. (M.S.)
 Whitney, N. R. Rapid City
 Whitson, G. E. Madison
 Wilcockson, T. H. Yankton
 Willen, Abner Clark
 Williams, D. B. Sioux Falls
 Williams, F. R. Rapid City
 Williams, M. F. Sioux Falls
 Wingert, Marvin Garretson
 Winters, M.D. (M.S.)
 Wold, H. R. Madison
 Wood, G. F. Rapid City
 Wage, T. R., Jr. Watertown
 Wright, J. C. (M.S.)
 Yackley, J. V. Rapid City
 Zandersons, V. Herreid
 Zeidak, O. Waubay
 *Zimmerman, Goldie E.
 Missoula, Montana
 Zvenjniaks, K. Leola
 Brauer, H. Sisseton

*Indicates Honorary Member

M.S. Indicates Military Service

BLUE SHIELD

CORPORATE BODY ANNUAL MEETING

MINUTES—MAY 13, 1961

AGENDA

South Dakota Medical Service Annual Corporate Meeting

- Call to Order—President, Donald H. Breit, M.D.
- Roll Call—Secretary, John C. Foster
- Financial Report—Calendar Year 1960 — Annual Report Booklet
- Report on Medicare—Past 12 Months
- Election of Board Members—Terms ending for Drs. J. P. Steele, D. H. Breit, E. A. Johnson, and Mr. Robert Beckwith.
- Old Business
 - 1. High Income Level Contract for South Dakota New Business
 - 1. OAA Program
 - 2. Motions from the Floor
- Adjournment

SOUTH DAKOTA MEDICAL SERVICE ANNUAL CORPORATE MEETING

The corporate meeting of the South Dakota Medical Service was called to order by President D. H. Breit, M.D., on May 13, 1961.

Present at roll call were: C. Rodney Stoltz, M.D.; C. J. McDonald, M.D.; Magni Davidson, M.D.; A. P. Reding, M.D.; R. H. Hayes, M.D.; R. A. Buchanan, M.D.; E. J. Perry, M.D.; J. J. Stransky, M.D.; M. C. Tank, M.D.; L. C. Askwig, M.D.; Paul Hohm, M.D.; T. H. Sattler, M.D.; J. D. Bailey, M.D.; E. P. Sweet, M.D.; H. E. Lowe, M.D.; E. A. Johnson, M.D.; D. R. Berzins, M.D.; W. R. Taylor, M.D.; B. C. Murdy, M.D.; C. J. Clark, M.D.; T. J. Wrage, M.D.; J. A. Anderson, M.D.; D. L. Scheller, M.D.; R. C. Jahraus, M.D.; C. L. Swanson, M.D.; Roscoe Dean, M.D.; J. H. Lloyd, M.D.; J. Donahoe, M.D.; R. R. Giebink, M.D.; J. V. McGreevy, M.D.; A. K. Myrabo, M.D.; O. P. Erickson, M.D.; E. T. Lietzke, M.D.; D. L. Ensberg, M.D.; R. F. Hubner, M.D.; J. P. Steele, M.D.; R. J. Foley, M.D.; R. J. Bareis, M.D.; R. A. Boyce, M.D.; W. A. Geib, M.D.; T. R. Jacobson, M.D.; S. F. Sherrill, M.D. and R. W. Roesel, M.D.

The minutes of the previous meeting were read by the secretary. As there were no corrections or additions, the minutes were approved as read.

Dr. Breit discussed the Financial Report which was accepted as published. Dr. Hayes moved that a breakdown of salaries be included in the Financial Report in the handbook for corporate members. The motion was seconded by Dr. Davidson and the same carried unanimously.

The report on Medicare was discussed by Dr. Breit. No action was taken. The proposed action on a high-level contract was discussed and on recommendation of the officers, no action was taken.

The OAA program was discussed by Dr. Breit. Dr. Steele moved that the matter be referred to the Board of Directors for action and that the Board offer its administrative services in entering a contract with the State Welfare Department. In

negotiating such a contract, the Board should request that diagnostic services be separated from the hospital charges. The motion was seconded by Dr. Lloyd and carried unanimously.

Dr. Myrabo moved that the corporate body approve a similar fiscal operation under OAA on behalf of the South Dakota Pharmaceutical Association if requested. The motion was seconded by Dr. Stoltz and carried unanimously.

Dr. Taylor moved that the corporate body approve such fiscal operation on behalf of the South Dakota Dental Association if requested. The motion was seconded by Dr. Hayes and carried unanimously.

Dr. McDonald gave the report of the nominating committee. They are as follows: Drs. Breit, Steele, Johnson, and Mr. Beckwith be re-elected to the Board of Directors for a 3 year term. Moved by Dr. Davidson and seconded by Dr. Myrabo.

Dr. Steele moved that the Board of Directors consider including a change in the contract for enrollees providing medical care payment to a physician when a surgeon provides his services. Motion was seconded by Dr. Sattler and carried unanimously.

HIGH INCOME LEVEL CONTRACT

On February 28, 1960, at the Special Membership Meeting, a motion was passed that a contract be formulated with a Service Benefit for families with an income under \$6,000.00.

Following this meeting, the Board of Directors recommended that this program not be adopted at the time, and that further actuarial studies be made.

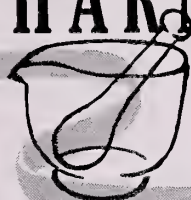
Further studies have been continued in the executive office, with the Federal Employees Contract being used as the basis for the study. At the present time, we are unable to give much information on this type of contract inasmuch as premium payments are not paid to our office. Federal claims are paid by our office, and the National Association of Blue Shield Plans reimburses us for each claim paid, plus a dollar amount for administrative expense. A breakdown of claims paid is shown in the Annual Report Booklet. Our figures indicate that 71.8% of the High Level payments are being made to participating doctors.

At the present time the New Plan #3 is being sold in South Dakota, and altho this Plan provides a larger payment in most cases, the Service Benefit remains at \$4,000.00 family and \$3,000.00 single. This, too, has provided us with inadequate experience for making any recommendations.

It is the recommendation of the undersigned, that study be continued on this type of contract, and that no decision be made until such time as the National Association is able to furnish our office with a detailed report on Income and Claims for the State of South Dakota.

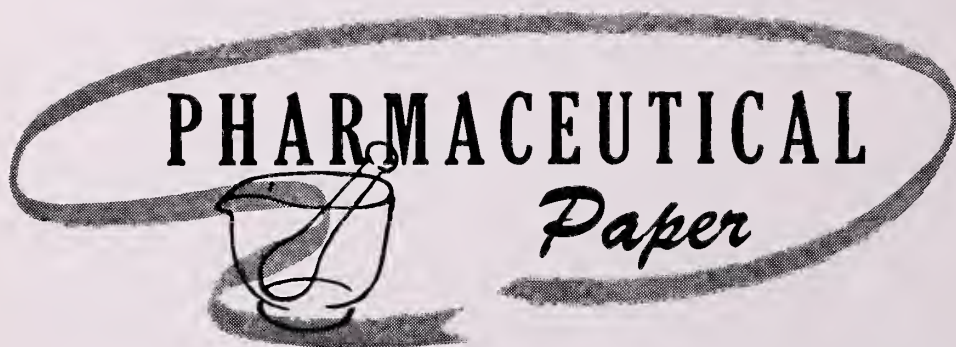
John C. Foster
Executive Director

PHARMACEUTICAL SECTION



GUILFORD C. GROSS, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota



A Prescription For Failure*

by

C. Boyd Granberg, Ph.D.**

Des Moines, Iowa

Why should anyone in the field of pharmaceutical education want to divulge to a group of pharmacy students a "Prescription for Failure?" Most of you, I am sure, have heard of the recent step of the colleges of pharmacy in this country to increase their college programs to five years. To those in the know, this only legalized what was already a prevalent situation — a number of students took five years anyway. One of the primary reasons for this step was a desire to give a more complete education to those desiring to practice pharmacy. In the words of practically every pharmaceutical educator in the United States, this was to "educate the student to live as well as to make a living." My reasoning in selecting this topic follows this line of logic. I have a suspicion — more than that, a belief — that there are some students in pharmacy who do not want to succeed as pharmacists, and I think they should be given the same opportunity as those who

do wish to succeed. They should be as thoroughly educated to fail as the others are to succeed. Thus, my bringing to you this "Prescription for Failure."

There are two kinds of people who demand a definition of terms from a speaker or writer — the wise man and the fool. One makes the demand for the definition before the speech or paper is begun, the other after its completion. Now, I can't remember how the two go together, so I don't know into which classification I'm putting us, but here are my definitions of the terms of my topic.

PRESCRIPTION: We are all in the pharmaceutical game, so we obviously already know what a prescription is. But do we? Have you ever tried to write a definition of a prescription? I have. In so doing I sought guidance by finding out what others had written as the definition of a prescription, and after I had accumulated a file of varying and different definitions from several dozen sources, I gave up. So here we are — a failure from the beginning. I can't even define the terms I am discussing! But we have an idea of what a prescription is. It is an order, a

*A speech given at the Province VIII Assembly of Kappa Psi, South Dakota State College, Brookings, South Dakota, April 15, 1961.

**Professor of Pharmacy, Drake University College of Pharmacy, Des Moines, Iowa, Editor of the *American Journal of Pharmaceutical Education*.

directive.

FAILURE: Webster defines this word as a failing. The opposite of success, that for which we all strive. It is generally considered to be a negative term. Most people don't enjoy being considered a negative — a nothing. We are exhorted constantly "think positively." However, those who would benefit from my prescription will not shrink from being called a failure — a nothing, because it is for this we learn.

A "Prescription for Failure." Failure in what? Scholarship? I had thought of dwelling on this topic until I remembered that I would be speaking to a group of Kappa Psi men, and I realized that if I were to speak of failure in scholarship to these men, I could only fail. Because here is an area wherein all good Kappa Psi men refuse to acknowledge failure. And since there are only good Kappa Psi men, there is no point in discussing failure in scholarship. Besides, failure in scholarship would preclude becoming a registered pharmacist, and that would deprive us of an opportunity for becoming a greater failure.

Failure in Romance? I'm sorry—that might be interesting, but I'm no Dorothy Dix or Ann Landers. Why do you suppose only women are experts in the field of romance? Is it because all men are failures in the practice of love and romance? That's a question for each of you to answer for himself, and romance is an area where it is best to permit each of you to be his own counselor.

Failure in what? Let's concentrate our efforts on failure in the practice of pharmacy. During all of your collegiate career you have been taught only that which is meant to make you a success as a professional person — irrespective of what school or college of pharmacy you attend. You have been given advice constantly on the proper conduct to be a successful pharmacist. I think it is time someone considered those who do not want to be a success. I think it is time to give some advice to those who desire to fail their profession, their teachings, their heritage and professional birthright. I want to stress directions for failing.

In my opinion, pharmacy has two concerns, one the personal conduct, the other the professional conduct of its practitioners. These two areas cannot be separated completely, but I want to discuss them separately.

Failure in Personal Conduct

Let us first consider the personal conduct of practitioners of pharmacy. How do you act, dress, talk, etc., when you get out into practice? To be a successful failure as a pharmacist, you should:

1. Be arrogant. Someone has said, "An arrogant person, is like unto a goodly tall tree, that groweth and mounteth very high, but bringeth forth no fruit." That's exactly what you want to be as a pharmacist failure, isn't it? To become a pharmacist you grow through a secondary and college education and mount to a high place in the community, but as a failure you don't evidence any visible product of growth. You sap the energy of the surrounding environment and produce nothing of value. You claim for yourself more consideration than is justly due to you and you give nothing in return. Be arrogant, haughty, insolent, insulting, sluggish, and display no tact. When someone hands you a prescription for a new drug, respond with, "Holy Smoke, are they using that on humans already?"

2. Be slovenly. Be unwashed, unkempt, unshaven, unclean. Don't permit your best friends to tell you, if you have any friends. Pay particular attention to your fingernails — they should be long with lots of good black filth under them. When you approach a customer, it is very effective if you have a half-smoked, half-chewed cigarette or cigar dangling from your lips — preferably dangling at a jaunty angle from the corner of your mouth. And don't, by all that is holy to the patron saint of all failures, don't remove it from your mouth as you say to your customer in a snarling and abusive tone and manner, "Whaddayuwant?" or "Whatkinuhdoferya?" The smoke curling up past your half-closed sneerful eye to enwreath your head will lend a touch of pure beauty to the slob you will portray.

You are permitted to wear a white jacket, or other uniform representative of a professional man. But it must not be clean! If you are truly a successful failure you will have the native, inherent ability to stain your professional attire most artistically. A little tobacco juice here, a touch of coffee there, perhaps a tinge of gentian violet or some other suitable locally used dye. Deep brown stains under the arm pits are very colorful

this season. It is best if some of the buttons of the jacket are missing, but if you have all your buttons, and at this point some might doubt it, be sure to leave a few of the top ones undone to expose the thick mat of curly hair on your chest — just to prove you're a man!

3. Be uneducated. Yes, sir, Man! Don't let anybody tell you that the guff you got in four or five years of college can do you any good, either in making a living or just plain old livin'. Don't you cotton to that old stuff about an education helping to free you from prejudice, bigotry, intolerance and hypocrisy. Other people may have these faults but you — why you have only firm convictions, honest opinions, high standards, and high ideals.

Be uninterested in esthetic matters and social affairs. Be narrow and do all in your power to not give the impression of a broadly educated man. Let the guy down the street worry about the school board, the police department, the city council, the church, the state, the nation, the world, your fellowman. Man, you've got enough troubles worrying about your bowling score, the wrestling matches, Mr. Dillon, and being a professional failure.

4. Be dishonest. Not the little petty, paltry stuff like a vitamin tablet once a day, or a candy bar or a pack of cigarettes. These things will probably never be missed, and how can you be a dishonest failure if you go undetected? You've got to do it up big — not only with the boss' money and merchandise, but with some that belongs to the customers, too. Take a lesson from the gal down in Iowa who took the bank and its depositors for more than two million. There's a professional failure. There's one who should be in the hall of ill-fame. There's a real lesson in dishonesty.

5. Be disloyal. First to your boss — that Simon Legree who works you forty long, hard hours every five-day week for a miserly, measly 150 bucks, plus a half interest payment in the store, two weeks vacation, and so forth. Why should you do anything for him? If these were still slave days, he'd own you instead of renting you as he does now. Be disloyal to your profession, too. Downgrade it at every opportunity; be an apologist for every snide remark you hear about pharmacy; cry on the shoulder of anyone who will

listen to your sad tale of being taken by the manufacturer, the wholesaler, the government. Go out and work for some mail-order prescription house — there's a chance to set pharmacy back. Take the lead in your area in unionizing the profession and you will be instrumental in dragging the profession down to a level as yet not imagined by some of its bitterest enemies.

There are other areas I could mention and other matters I could discuss in giving you a prescription for failure: make only promises that cannot be kept; work hard at being unfriendly; don't know your merchandise; seek misunderstandings with your customers and suppliers; make as many mistakes as possible, don't learn people's names, or recognize your customers; look for chances to cut out service; have different prices for all, etc., etc., etc., but we have such a short period of time that we must move on to the area of professional conduct.

Failure in Professional Conduct

To be a failure in professional conduct, you must:

1. Over-charge for your professional services. The people who come into your place of business—we won't refer to it as a pharmacy, because that would destroy the illusion we are trying to create — are only sick. They are worried and emotionally upset in many instances. They will be happy to pay you anything you ask. So gouge them good while you have the chance. They may not come back in again — if they are smart — so hit 'em hard where it hurts the most, right in the old pocketbook. Don't be concerned with any method of pricing — fee schedule or otherwise; get all the traffic will bear. These pricing guides are frequently only some college professor's crackpot idea to strangle the practicing pharmacist with red tape and detail — and, possibly to get him into trouble with the federal Justice Department. If the customer complains about the high cost of drugs, don't take the time and opportunity to explain the truth of the cost of medication, the benefits of research, the effect of miracle and other drugs in reducing death rates. You know how to handle such complaints — whine, complain, curse the manufacturer, distributor, and prescriber — be angry, rude — and all the other things we've already talked about.

2. Substitute, use counterfeit drugs, sell legend drugs OTC, peddle narcotics and barbiturates — do all the other things prohibited by law and ethics. Don't get caught doing these things, however, because the consequences preclude any further efforts at being a failure — you've had it. I could give you more explicit details about these practices, but the finer points I reserve for a graduate course I offer — for a price, of course.

3. Don't join any professional organizations — other than Kappa Psi, of course. Ignore the local and state organizations in your area, and have no truck with the national associations. There are, as you are aware, too many organizations in pharmacy. A recent issue of the A.Ph.A. journal listed 743! How can a profession as small, as poorly organized, and as decadent as pharmacy possibly support 743 organizations? You can be a real help in this situation if you refuse to join any pharmaceutical group. It stands to reason that if no one joins, the groups will soon have to fold because of a lack of members and then we won't be bothered with do-gooders in the profession harping at us to become joiners. By not joining, you will be in good company — or at least you will have lots of company. You must have seen a news release from the A.Ph.A. early last fall which compared membership in the A.Ph.A. with membership in the American Medical Association and American Dental Association. You remember the figures? ADA, 95 per cent; AMA, 60 per cent; A.Ph.A., 17 per cent. It must be fashionable to be a non-joiner — there are so many of them among the practitioners of pharmacy.

But, if by some unavoidable circumstance you are forced to join a local, state, or national pharmaceutical organization — or all of them — don't attend meetings — except to complain and be obnoxious. Let only one or two active people do all the work, and then you can complain about the clique that runs things.

If we can just eliminate pharmaceutical organizations entirely, then we can turn over to non-pharmacists the complete control of our destiny. We're pretty well along the way now to this achievement. We have people who do not have a pharmaceutical background running our state organizations, our state boards — writing our laws and enforcing our statutes. We have people with no

pharmaceutical education editing our professional journals, administering our associations. We may as well continue to the bitter end. You can do your part by being indifferent to pharmaceutical organizations — and eventually someone else will organize, e.g., unionize you.

Then will come the millenium! High wages, short hours, no front-end work — only filling prescriptions, and not more than a definite few in number each working day at that. No matter that an emergency prescription comes in a few minutes after you've filled your last permitted Rx. No matter that it may mean the death of the patient if you don't fill it — you've satisfied your professional obligation for the day and your union says no. And the union controls your professional life now. Sound good? Can you imagine a more perfect failure as a professional?

I can see I'm a failure. Your faces are shouting to me that I'm not getting through to you in my effort to make failures of you. You don't want to fail as pharmacists. You have no idea at the moment that you will be anything other than a complete success in your professional life. Thousands of other undergraduate pharmacy students must have thought the same thing during their collegiate days. I doubt if there has ever been even one pharmacy student who graduated with the firm idea that he would be a failure in his practice.

Who is Responsible?

Then what happens? You cannot deny that there are failures in the practice of pharmacy today. If there were not, would pharmacy be faced with the many serious problems that confront us? Would we need to be worried about mail-order prescription houses? Congressional investigations? Justice Department indictments? Unionization of the profession? Welfare programs that are leading inevitably and relentlessly to complete socialization of the entire medical complex in this country? What happens? Why do some pharmacists — too many pharmacists — fail their colleagues, their profession, their heritage, themselves, when they get out into practice? I don't know the answer. I have a hunch no one does, or the problem would be solved and cease to exist.

Who is to blame for the undesirable situation? Many people. The educator, who in



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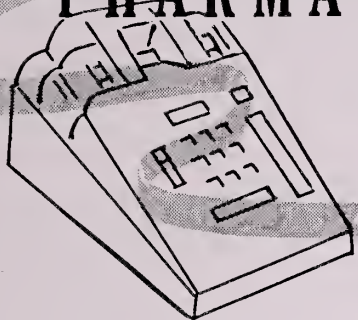
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my opinion has been more interested in the past few decades in research and in supplying chemists, pharmacologists, biochemists, and such other specialists than he has been in educating pharmacists for community practice. The retailer, who, perhaps prodded by the crush and rush for economic stability has stampeded to the brink of professional decline and now faces the possibility of the loss of his traditional role in society. The retailer who has forgotten that service is still the watchword of his profession. Many people. The wholesaler, the manufacturer, the government. The social changes, the changes in attitudes, philosophies, and actions of a restless public caught up in a rapidly changing world over which there seems to be no control. All of these are a part of the picture.

If there is no need for a prescription for failure and no desire for such direction, how about a prescription for success? Obviously, the opposite of all my bad advice given to you can be used with good effect. And for excellent guidance to success, turn to the objectives of Kappa Psi. You need do no more than to apply these aims to your professional conduct as well as to your fraternal conduct, and success, satisfaction will be yours. Then, if you can succeed in instilling in your colleagues in the profession these same ideals, pharmacy will find its rightful place in the professional orbit.

You have this responsibility, you know — the responsibility of leading others in the profession. As members of an illustrious and proud pharmaceutical fraternity you have assumed the leader's mantle. It is an individual responsibility, however, more than it is a collective responsibility. Each of you must decide for yourself what role you will play in the pharmaceutical profession — one of active participation or one of the passive spectator — the freeloader. The profession of pharmacy will be what its members decide it will be. A profession in which a significant number of its members is permitted to work at levels below their capabilities will not achieve its potential goal. The goals of pharmacy will be determined by its members, and the wisdom of the profession is the wisdom of its members. How wise will you be? How successful will you be?

PHARMACEUTICAL ECONOMICS



The Low Cost of Health*

by

Marc Woodward**
New York, N. Y.

As a representative of the pharmaceutical industry, I appreciate the opportunity of appearing at this symposium with such distinguished company. I am also keenly conscious that some of what I have to say today may not be entirely new to all of you.

There are, however, some facts which I believe are important enough to bear repeating before an important group such as this.

All of us here today have heard in the recent past, and will continue to hear in the future, a variety of charges that the cost of health is high. Much of the criticism that we hear is directed specifically toward the cost of medications for the treatment of poor health. Much of this criticism is founded on distortion, rather than on fact. Much of it is made by persons who, for one reason or another, seem to lack a sense of public responsibility.

What our critics fail to realize, it seems to me, is that we are, as members of the health team, vitally concerned with the health and lives of human beings. Fortunately, in our free democracy, we place a higher premium on human life in this country than has any civilization in the world's history.

"Life, liberty and the pursuit of happiness . . ." were three of the "inalienable rights" initially stated 184 years ago when our independence was declared to the world. These rights unfortunately, are not attainable without the enjoyment of good health.

It would seem, therefore, that the achievement and maintenance of good health is a primary requisite in our society, wouldn't it?

In the modern community of America we must be concerned with a people who have achieved probably the highest health standards in the world. They have also achieved a high literacy rate, and that is augmented by our electronic public communications — radio and television — for those who cannot read, but can see and hear. The dramatic progress made in health in recent years, together with the widespread dissemination of information about health has created a more informed, aware and sensitive public, a public eager to know more and more and more.

It is the duty of all of us concerned with the health field to keep the public informed of the facts about our health. That is one of the rights our forefathers, I am sure, took for granted.

And it is the public's right to know.

Decline in Infectious Diseases

When I say that we have achieved high

*A speech given at the Seventh Annual Joint Pharmacy Seminar at Wayne State University, College of Pharmacy, Detroit, Michigan.

**Executive Director, Health News Institute, New York, N. Y.

health standards in this country, I am sure you understand that does not mean that illness has been eliminated, in spite of the dramatic declines in infectious and parasitic diseases and in mortality.

And I might add, parenthetically, the mortality from infectious and parasitic disease, once our greatest killers, has plummeted steeply over the past 20 years by almost 75 per cent, due in large measure to the introduction of new anti-infectives and biologicals.

But most of us know these facts. It is about the cost of drugs that I am here to speak to you today. And yet, I wonder if it is possible to talk about the cost of drugs alone, without discussing the problems of doctors' fees, hospital bills, yes, even funeral expenses at the same time.

For no one element of health stands by itself. Today, more Americans than ever before visit their physicians. Mostly because they can afford to.

And more physicians prescribe medication than ever before. Mostly because the medication is curative, rather than palliative. And they can afford to.

More and more people are operated upon than ever before. Mostly because new medications have enabled surgeons to perform operations which a short generation ago were either impossible due to problems of infection, or so dangerous as to make physicians cautious about recommending such procedures.

It is interesting to note that despite the effectiveness of today's medicines, despite the lives and money saved by them, more and more people condemn the pharmaceutical industry for "profiteering" at the expense of the public.

This attitude, I am afraid, is a result of two things: Ignorance on the part of the public as to what medical care does cost, and the not-too-subtle propaganda of the few editors, public officials and paid propagandists who believe that all medical care should be the responsibility of the state rather than of the individual.

I believe that if the first problem were solved, the second would cease to be a problem. And so, I think it is a prime responsibility of the entire health team to educate the public as to what medicine really does cost

and how it fits into the entire United States medical care picture.

There are any number of sources for this information. The Department of Commerce estimates that all medical care in 1958 cost Americans \$16.4 billions. At the same time, they report that medicine cost \$3.3 billions, or 20 cents of each medical care dollar. This figure is identical to that of 1946, when the only new weapons in the hands of the physician were penicillin and the sulfa drugs; and is .6 per cent less than the percentage of the medical care dollar spent on drugs in 1929.

But this is only one way of measuring the cost of medical care. Perhaps a better way might be by comparing costs of disease today with what they might have been without the introduction of new and improved medications.

The death rate from pneumonia and influenza in 1937 was 114.9 per 100,000 Americans.

If this death rate had continued, more than 202,360 Americans would have died from pneumonia in 1958 alone.

However, only 57,430 died from those diseases in 1958.

How do we measure the cost of this illness? In terms of dollars? Those saved from death by pneumonia and influenza in 1958 made more than \$295,000,000 that year alone . . . and paid to the federal government close to \$60,000,000 in taxes, almost twice what the federal government appropriated in 1958 for the National Institute of Allergy and Infectious Diseases.

Tuberculosis is another case in point.

In 1937, 53.8 of every 100,000 Americans died of tuberculosis. In 1958, only 7 of every 100,000 Americans died from tuberculosis. Thus, in 1958 alone more than 81,000 Americans were saved from death by this disease.

These 81,000 persons earned, in income, that year alone, more than \$165,000,000, and paid more than \$30,000,000 to the government in taxes. And, I might add, the income in 1958 from those Americans who would have died from pneumonia, TB, and influenza was greater than the amount spent by all Americans on the antibiotic prescriptions that saved these lives during that year.

Today's Drugs are Bargains

But figures are meaningless in speaking of lives.

They do not tell of the anguish of the parents whose child would have died from these respiratory diseases, or such other diseases as rheumatic fever, diphtheria, whooping cough. They do not tell of the contributions made to society by many thousands of scientists, artists, educators . . . yes, even politicians, who would have died without the life-giving advances of modern pharmaceuticals.

It has been estimated that up to 3,000,000 of these artists and scientists, educators and politicians, parents and children who are alive today would not have lived were it not, at least in part, for the contributions to health made by the pharmaceutical industry. (Many of them, probably, are among the most vociferous attackers of the same industry which helped save their lives.)

And yet, the medicines which have helped save these millions of lives are among today's greatest bargains. The average cost of the prescription which has routed tuberculosis, helped cut the death rate from pneumonia and influenza, brought new hope to millions of arthritics, and is helping to reduce the number of mentally ill in our institutions (at a saving to taxpayers estimated at \$860,000,000 between 1955 and 1958) was less than \$3.00 in 1958. And just recently, a study by David Stiles of Abbott Laboratories, indicated that in 1959, 60 per cent of all prescriptions cost less than \$3.00, and that only about 1.7 per cent of prescriptions cost more than \$10.

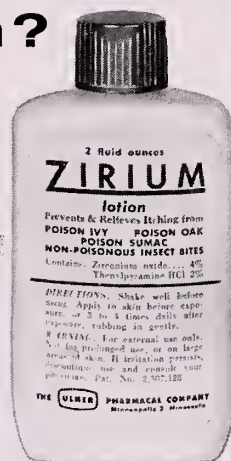
All drugs and medicines, including proprietary products, cost the average American only one penny of every dollar left after taxes in 1958, and during that entire year he spent only about \$15.00 on prescription drugs. Compare this with the \$36 per person spent on tobacco products, the \$53.00 per person spent for alcoholic beverages, or the \$24.00 spent on repair, servicing and storage of automobiles in 1958. And yet the cigarette companies are not attacked for charging too much . . . the liquor industry is not attacked for charging too much . . . the automobile industry is not attacked for charging too much.

While the price of almost everything we buy has gone up since World War II, the price of medicines has not kept pace with this general rise. Since 1947-49, the cost of living index has increased 23.7 per cent while the cost of medication has gone up only 21.4 per

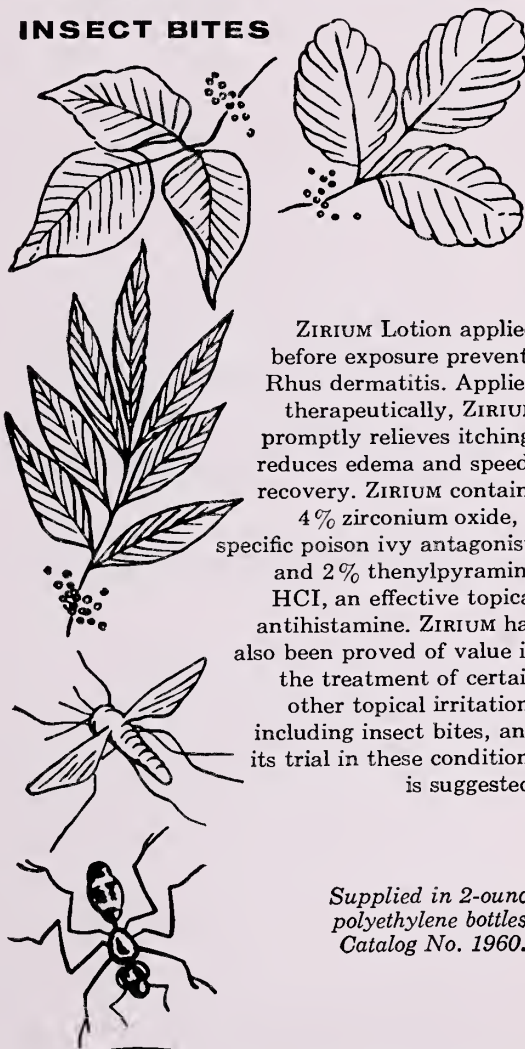
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cent. During this same period, the cost of housing has gone up 28.7 per cent; personal care has increased 29.7 per cent; and transportation has jumped by 44.3 per cent. These three items, which make up almost 25 per cent of the total expenditures of the average American family, take a far larger share of the consumer's dollar today than they did a generation ago. Medicines, on the other hand take no more of the consumer's after-tax dollar today, than they did in 1937 or 1929. And yet, in this period, there has been a revolution in medicine — a revolution which has seen drugs change from palliative to life-saving.

Of course, because of the rapid year-in and year-out changes in medication, many of the drugs listed in the government's consumer price index are no longer widely prescribed. And yet, the price history of new medicines shows a rapid drop after they are introduced . . . as opposed to most other commodities which remain stable in price or show increases. One study of drug price changes over the past eight years, made by American Druggist magazine, shows that nearly 65 per cent of them (2322) were reductions, while only 1/3 (1226) were increases. Penicillin once sold for \$100 for 100,000 units. In 1956, the price for that quantity was only 22.2 cents. Speaking of 10,000 per cent increases in drug prices, this would appear to be a 99.8 per cent reduction. When cortisone was first introduced, the price was \$200 per gram. By 1957, the price had been reduced by 99 per cent to only \$2.00 per gram.

In 1956 the U. S. Department of Labor surveyed the prices of 37 selected drugs and pharmaceuticals over a three year period. It found that 15 products had decreased in price by an average of 27 per cent, while only 10 had increased in price by an average 11 and ½ per cent. The remaining 12 showed no price change.

Despite the comments about the high price of drugs in the United States and their low price in other countries, the truth is that most medicines are cheaper in terms of real cost in the United States, than they are abroad.

For instance, the dollar price of a bottle of 100 tablets of one prescription drug is \$20.00 in the United States, while in Germany it was \$6.41 and in Japan \$6.94. Despite the wide difference in dollar price, it took the

average factory worker only nine hours of working time to pay for this bottle, while his German equivalent had to work 11½ hours, and the Japanese worker had to work more than 23 hours.

Still another drug costs \$5.42 in the United States for a bottle of 50 tablets. Prices in Germany for this same bottle range from \$1.30 to \$2.78; in Mexico the price is \$2.40, and in Japan \$3.33. When computed in terms of the working time needed to buy the prescription, however, the American worker paid for his bottle in 2.44 hours, while it took the German up to 4.79 hours, the Mexican 6.85 hours and the Japanese 11.11 hours.

And, despite inflation, and despite the fact that each year has seen the introduction of new and effective medicine to cure disease, reduce pain, and permit physicians to try new and startling life-saving operations, the real price of the average prescription is less today than it was a generation ago. In 1939, the average prescription price was \$1.11. But it took the average manufacturing employee 1 hour and 45 minutes of working time to pay for it. Today's average prescription price is about \$3.00. But it takes only one hour and 21 minutes of working time to pay this price.

Public Must Be Informed

These then are the facts. I believe they speak for themselves. They show that despite publicity, and attempts to portray the pharmaceutical industry as grasping, monopolistic and conscienceless, despite the effort to make a whipping boy out of drug prices, the consumer today gets more for his drug dollar than ever before. It is our duty to put these facts before the American public to counteract attacks from Congress, from certain elements of the press, and from those who would use drug prices as a stalking horse for state controlled medicine.

John Donne, a 17th century poet and theologian wrote once, that "No man is an Iland, intire of it selfe; every man is a piece of the Continent, a part of the maine . . . And

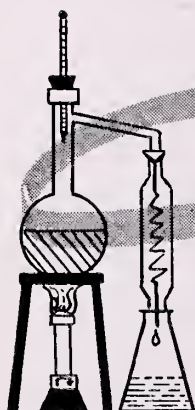
therefore never send to know for whom the bell tolls; It tolls for thee." A more modern artist, Ernest Hemingway, used the theme as the basis of one of his greatest novels. Now, I believe, we as members of the health team must pay attention to this theme. For no member of the health structure of the United States is independent of any other. The pharmacist, the physician and the pharmaceutical manufacturer are all inextricably bound up with each other. If the bell tolls for one, it tolls for all.

An attack on one element of the health team is an attack on the entire team. The public holds the pharmacist equally responsible with the manufacturer when it comes to drug prices. The physician is held equally responsible with pharmacists and manufacturers for the cost of illness.

If, through the misguided efforts of some, legislation regulating drug prices, eliminating drug patents or requiring prescribing by generic name is passed by the state or federal government, on its heels will come further legislation regulating physicians' fees, hospital costs and procedures, and the medicine that must be prescribed by the physician.

With legislation of this kind will come an end to the practice of medicine as we know it in this country. The delicate physician-patient relationship will be destroyed, the search for new and improved medication will be suffocated as it has been in England, and the freedom of the patient to consult the physician of his choice, and the freedom of the physician to prescribe the medicine of his choice will come to an abrupt end.

This I think, is the end result of the misunderstandings about drug prices. And it is up to all of us active in the health field to put an end to these misunderstandings. And we must act together. For, if we do not, we will all be the losers. The manufacturer, the pharmacist, the physician, and, in a truly tragic sense, the patient . . . the American public.



Advances In Drug Research

POLIOMYELITIS

Each year, many parents become apprehensive as the polio season approaches. Fortunately, today their alarm is not what it was prior to 1955 when there were no weapons with which to fight the dread disease.

With the introduction of the Salk vaccine in 1955, the counter fight began and the indications are that better control of the disease is within our reach. Now on the horizon is the Sabin oral vaccine, with the promise of completing the job.

Polio was first accurately described in 1789 by a British physician named Michael Underwood. Before 1900 paralytic polio was reported comparatively rarely in the United States but became increasingly common, reaching epidemic proportions by 1915. About six cases per 100,000 population were reported annually in the period from 1910 to 1914. This rose to 41 in 1916, although one authority puts it lower, at 28.5.

Nevertheless, the statistics continued to grow worse and for the next 15 years began to make consistently unpleasant reading. In 1952 the rate of 37.2 cases per 100,000 matched the 1916 epidemic.

These grim statistics were slashed abruptly when the Salk vaccine was introduced. The rate declined year by year until 1960 which was the best year since 1938, according to provisional figures released by the U. S. Public Health Service. New cases of paralytic polio totaled 3,277 for the nation, a decline of 62 per cent from 8,567 in 1959 and a walloping

drop of 92 per cent below the annual average of 38,727, which was set in the pre-vaccination years from 1950 and 1954.

In this immeasurably brighter picture there are only two dark clouds, both related to lack of immunization. Reports indicate that the virus is attacking small children again with unusual violence, recalling its older name of "infantile paralysis." Two out of five paralytic admissions to hospitals in 1960 were children under five years of age. Nearly two-thirds of all cases were under 10.

The other dark spot was that isolated epidemics continued to break out, usually in poor or slum sections where the population had failed to take the Salk vaccine. Such trouble spots continued to flare even in the good years of 1959 and 1960 — in Rhode Island; in Des Moines, Iowa; in Little Rock, Arkansas; in Cattaraugus County, New York; and in Massachusetts.

This is Polio

There are three known types of polio virus, a disease-causing agent too small to be seen with an optical microscope, which reproduces only in living cells. The virus of paralytic polio attacks certain cells in the central nervous system, thereby causing the paralysis by which it is known.

All three types of virus are far more widespread and prevalent than had been earlier believed. It is likely that the average American has been infected with any or all of the three before reaching the age of 40 and many children have had all three by the time they

are 10 years old.

How can this be? The usual infection does not lead to paralysis. The virus is extremely contagious and spreads from person to person with ease. A child who brings it home is virtually certain to give it to his sisters and brothers, and parents as well. It is now thought that several million infections occur in the United States every year, making the disease more common than measles — certainly more unrecognized.

In a curious way, the menace of polio is related to our higher living standards and better hygiene. Lower economic groups, crowded into slums with generally poorer hygienic conditions are more exposed to the disease and as a result have the opportunity for earlier immunization. Given better hygiene, exposure may be delayed until considerably later in life. This is something to be considered in an age of travel where susceptible individuals from the higher economic levels may come into contact with those able to infect them. Still, those in the higher levels have had the benefit of more Salk vaccine, so presumably are better protected.

The saving factor is that most infections, though potentially deadly, never get off the ground. The virus enters the body through the mouth and passes into the intestinal tract. It multiplies rapidly in the gastrointestinal tract but in the vast majority of cases is confined there and causes no symptoms or only mild ones, such as sore throat, headache, fever, upset stomach — even vomiting. A couple of other illnesses, such as Cocksackie and Echo virus infections are often similar in symptoms.

Meantime the body is busy manufacturing antibodies to clear out the invading virus. This may take some weeks, during which time the infected person is a mobile carrier, spreading the virus to others.

The danger begins if the virus breaks out of the intestinal tract into the blood stream. Even now, with only a low fever or mild illness, the antibodies may clear the blood stream and recovery takes place with no suspicion of polio. But once in perhaps several hundred cases, the virus breaks through to its real goal, the cells of the central nervous system in the spinal cord and brain. Then, for the first time, the characteristic symptoms appear: headache, stiff neck, painful muscles

and joints.

It has been found that exercise during the early stages of the disease may make it more severe. It is therefore important to keep anyone remotely suspected of harboring the disease quiet.

The Effects

Paralytic polio comes in three types, all bad. The spinal type damages nerve cells in the spinal cord which control the lower muscle groups in the body. The bulbar type involves cranial nerves and others in the base of the brain. Some of these control circulation, swallowing and breathing. Paralysis of these centers can very quickly lead to death. Bulbo-spinal polio is a combination of the two which is usually the most serious.

About 15 per cent of paralytic patients, especially those with the bulbar or bulbo-spinal types, need help in breathing and for these, aids have been developed such as the iron lung, the rocking bed and the chest respirator.

There are some 300,000 to 350,000 persons alive in the United States who have had paralytic polio. About 19,000 show no evident residual disability. Some 43,000 were left with slight muscle weakness. Seventy-eight thousand had moderate paralytic involvement. Fifty thousand were severely crippled.

The death rate has dropped from an average of 30 per cent to about 4 per cent. The rate is higher for males than females (about 22 per cent higher) except during women's childbearing years, when their rate exceeds the males'.

The Vaccines

There is no drug that will cure polio or arrest its course once the disease is contracted. The only cure is prevention.

No vaccine is perfect. But among those who received three Salk shots, cases dropped by 80 per cent and among those who received four shots, cases dropped by 90 per cent. In a few individuals, even four shots may fail to start the manufacture of antibodies.

One of the problems, according to the U. S. Public Health Service, is that a lot of people have had no real protection. In the most susceptible age groups — those under 40 — 81.5 million haven't had four shots and 29.9 million haven't had one. They are concentrated in slum areas, poor farming sections and among members of religious sects and tightly knit nationality groups. These are now the

chief victims, and the hardest hit are their small children.

The Salk vaccine is a killed virus vaccine, as contrasted with live virus vaccines. Salk vaccine does not block entry of "wild" polio virus into the alimentary canal, nor does it prevent their making free use of the victim's intestinal tract to thrive and multiply. It does not stop him from continuing to be a walking carrier of infection. What it does do is to set up an antibody barrier in the bloodstream which protects him from the advance of the virus into his nervous system.

Although the three types of polio virus which it contains have been killed by exposure to formaldehyde, they retain their ability to trigger the defense of the human body into producing antibodies.

By contrast, live-virus vaccines not only trigger the production of antibodies to keep viruses out of the nervous system, they help protect the intestinal tract as well. In fact, since the tamed viruses used in the vaccine are as transmissible as the untamed deadly viruses, they may spread immunity from person to person by the same route as the disease.

Both the Salk killed-vaccine and the Sabin live-vaccine have one factor in common: they are indebted to the kidney of the monkey.

In 1949, Dr. John Enders of Harvard University, working with Dr. Thomas Weller and Dr. Frederick Robbins, found that polio virus could be grown in test tubes on a tissue culture of monkey kidney cells. This was the first practical means of growing the virus in quantities which could make a vaccine possible.

Enders' work paved the way for Dr. Jonas Salk and his associates at the University of Pittsburgh, who conceived the idea of growing all three types of virus, inactivating them with formaldehyde and then combining them into a complete vaccine.

The large-scale cultivation of polio viruses in monkey kidney tissue cultures remains the keystone of production. The three types of polio viruses are grown and inactivated separately and then combined in the final stages

of manufacture. The process is performed in a series of sterile rooms lined with ultraviolet lights. To guard against bacteria which might contaminate the culture media, antibiotics are added to the nutrients used to nourish the kidney cells upon which the viruses grow. The antibiotics will kill bacteria, but not the virus.

To make certain that no live virus remains in the vaccine, samples are injected into healthy monkeys and the animals observed for a month. Vaccine samples are also added to tissue cultures to see if any growth takes place, indicating live virus. Samples from each lot are also tested in mice, guinea pigs and rabbits to insure safety standards which often surpass the scrupulous requirements of the National Institutes of Health.

Enter the Live-Virus Vaccines

Spectacular as the success of the Salk vaccine has been, it is considered likely that the best ultimate protection against paralytic polio may come from a live-virus vaccine. Three such vaccines utilizing different strains of virus are now in existence: the Sabin vaccine, the Cox vaccine and the Koprowski vaccine. Only the Sabin strains have been approved by the U. S. Public Health Service for use in vaccines intended for administration in the United States.

The Biological Research Laboratories of the Chas. Pfizer Co. have been interested in the Sabin vaccine since 1957. The company's scientists have followed Sabin's work closely and have recommended a grant to finance a clinical study of the vaccine in Mexico.

In the summer of 1959, preparations were begun to produce the Sabin oral polio vaccine at the laboratories of its English subsidiary.

Dr. Sabin provided technical assistance from the start and furnished the starting seed virus for the program.

Large scale production of the Sabin-type oral polio vaccine is under way. In the meantime, Salk vaccine will continue to be available for the continued protection so necessary.

PRESIDENT'S PAGE

Rx



When this issue of the Journal appears, my term of office as president of the Association will be over. It has been a rewarding experience. We have engaged in many avenues of endeavor. Some have been completed, others just started. We must first expend our efforts to complete those that have been initiated and then, without delay, formulate goals for the future.

Personal problems have been of concern to me during my term of office. I'm sure that all of you know about these. The Secretary and other members of the Association have helped me tremendously, but there still remains unfinished business with which I hope to be given the opportunity of working.

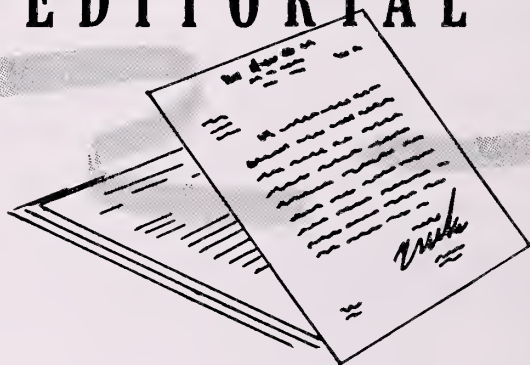
We have been expending effort to create a unified medical profession comprising medicine, pharmacy, hospitals, etc. But, there are differences within our own ranks. I would welcome the opportunity to serve on a committee to promote better mutual understanding.

I hope that the Association will call on me to serve in any capacity for which it may consider me capable.

Sincerely,

Albert H. Zarecky

EDITORIAL PAGE



DR. BAILEY TAKES NEW POST

With this issue of the Journal, a change in editors of the pharmacy section has been effected. Dr. Harold Bailey, who for eight years has held the position as the pharmacy editor, has found it necessary to relinquish this post because of added responsibilities associated with a change in his staff position at South Dakota State College. On February 1, he was named Dean of Academic Affairs, a position of importance and responsibility.

In succeeding Dr. Bailey on the Journal staff, we wish to offer him our congratulations and best wishes in his new assignment and to commend him for the excellence of his work as the pharmacy editor of the Journal. His eight years in this position has shown a

considerable expansion of this section of the Journal with material of a high professional quality. We shall strive to maintain his high standards in handling our new assignment.

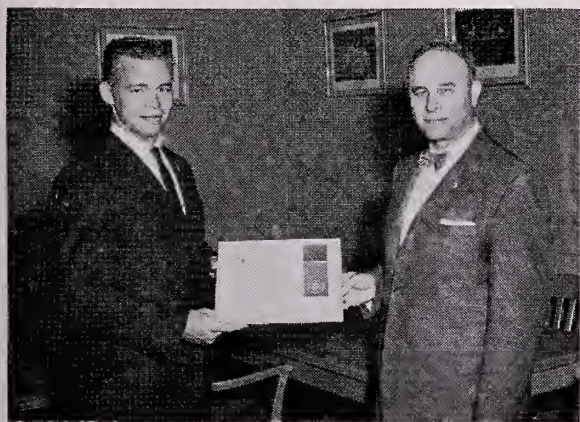
Happily, Dr. Bailey's change in position does not mean that he will be separated entirely from pharmacy. He will continue as a part-time staff member of the Division of Pharmacy at South Dakota State College and we are certain that his interest and enthusiasm for his profession will not diminish in the years to come. Dr. Bailey has contributed much to pharmacy in his adopted State, and we look forward to a continuation of his association with the profession.

PHARMACY

Rx News



Floyd LeBlanc, Dean of Pharmacy, receives a bronze plaque in commemoration of twenty years service as faculty advisor to the student branch of the American Pharmaceutical Association at State College. The plaque is being presented by Jon Lee, branch president.



Tyrone Steen, former president of the student branch of The American Pharmaceutical Association at State College receives an award for outstanding service as branch president from Dr. Kenneth Redman, Professor of Pharmacognosy at the college.

Student, Dean Honored at Pharmacy Dinner Dance

A student and a faculty member received special recognition at the annual pharmacy dinner dance, May 6, sponsored by the South Dakota State College student branch of the American Pharmaceutical Association.

Dean Floyd LeBlanc of the Division of Pharmacy was presented with a bronze plaque in appreciation of his service to the organization as faculty advisor over a period of twenty years. The presentation was made by Jon Lee, Clarkfield, Minn., president of the student branch.

Tyrone Steen, Wheaton, Minn. received a certificate of outstanding service. The presentation was made by Dr. Kenneth Redman, a former faculty advisor of the organization. Steen, a senior and past president of the student branch, was also awarded a gavel as a token of appreciation for his work as president. Jon Lee made the presentation.

Honored guests at the occasion were Albert H. Zarecky, president of the South Dakota Pharmaceutical Association, and Mrs. Zarecky.

RHO CHI INITIATES EIGHT STUDENTS

The South Dakota State College chapter of Rho Chi, national pharmacy honor society, initiated eight new members at its May 16 meeting, and elected officers for the coming year.

New members are: Kenneth Bray, Aberdeen; Kenneth Buck, Waterville, Minn.; Marion Hansen, Morris, Minn.; Patricia Hauck, Rapid City; Sharon Larson, Wakonda; Ron-

ald Mansmith, Fulda, Minn.; Dennis Miller, Brookings; and Robert Wik, Norbeck.

Admission to Rho Chi is based primarily on scholarship, character and leadership.

New officers elected are: Robert Wik, president; Ronald Mansmith, vice president; Sharon Larson, secretary-treasurer; and Kenneth Bray, historian. Dr. Gary Omodt, Assistant Professor of Pharmaceutical Chemistry, was re-elected faculty advisor.

Following the initiation ceremony and a brief business meeting, a banquet was held in the Crest Room of the Student Union. Dean Floyd LeBlanc, chapter delegate to the national convention of Rho Chi held in Chicago in April, gave a brief report of that meeting.



Shown above, with Dean LeBlanc of the Division of Pharmacy, are the eight pharmacy students who were recently initiated into the Rho Chi Society. Seated, from left to right, are Sharon Larson, Patricia Hauck and Marion Hansen. Standing, from left to right, are Dennis Miller, Ronald Mansmith, Robert Wik, Kenneth Buck, Kenneth Bray and Dean LeBlanc.

Pharmacy Students Receive Awards

Six senior students of the Division of Pharmacy, South Dakota State College, were presented awards for meritorious contributions and scholastic achievements. The awards are sponsored by various pharmaceutical companies and the recipients selected by the faculty of the Division of Pharmacy.

The awards and their recipients are: Rexall award to David Gillis, Faribault, Minn.; Lehn and Fink Medal to Robert Reutzell, Fairmont, Minn.; Bristol award to Edward Mahlum, Mondovi, Wis.; Merck award to Excellda Watke, Alvord, Iowa; Merck award to Vernon Henrich, LeMars, Iowa; and Johnson and Johnson award to Sharon Mix, Brookings.

The presentations were made by Dean LeBlanc of the Division of Pharmacy on May 26.

BOARD OF PHARMACY CONDUCTS EXAMINATIONS

The South Dakota Board of Pharmacy met in Brookings, June 6, 7, 8 for the purpose of conducting examinations of applicants for licensure. A total of twenty-seven applicants were given written and practical examinations covering the subjects of pharmacy, pharmacology, chemistry, pharmaceutical mathematics, practical pharmacy, toxicology and jurisprudence. In addition, each applicant was given an oral examination by each of the three Board members. There were no applications for licensure by reciprocity.

In accordance with a Board regulation, effective July 1, 1960, an applicant must have completed all of the experience requirement in order to be eligible to take any portion of the examination. Prior to this time, pharmacy graduates who had not fulfilled the practical experience requirement were permitted to take examinations in certain subjects, but not all.

Conducting the examinations were Board members, Roger Eastman, Platte; Al Bittner, Aberdeen and Ted Hustead, Wall; Board Secretary Bliss Wilson, Pierre and Inspector for the Board, Harry Lee, Alcester.



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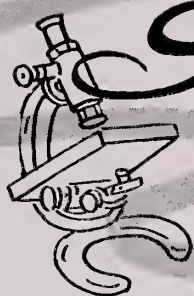
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Scientific

P A P E R

ORNITHOSIS: (PSITTACOSIS OR PARROT FEVER)

Human Infection from Turkeys

Case report

Edward G. Huppler, M.D.,
Dept. of Surgery, Bartron Clinic,
Watertown, S. Dak.

Robert A. Nelson, M.D.
Bartron Clinic, Watertown, S. Dak.

Ornithosis commonly known as psittacosis or "Parrot fever" is an infectious viral disease of birds transmitted to man. The cases usually reported are those in which parakeets and parrots have been the carriers of the infecting virus. Infection in man has been reported in which turkeys were the reservoir. This is a report of a case whose source of infection is presumed to be the domestic turkey. This report is submitted at this time because of the public health aspects of the disease.

A 59 year old, white, married male consulted us on January 20, 1961 with the complaints of cough, dyspnea, and intermittent fever of one month's duration. Three days prior to admission he began to complain of dull frontal headaches. When he coughed, sharp pain was referred to the area of his left scapula. He complained of epigastric bloating, but no indigestion. He had lost 20# of weight. He had smoked 1 package of cigarettes daily since age ten. His past history was non-contributory for significant illness except for an appendectomy 20 years ago.

Physical examination revealed a thin, poorly nourished, acutely and chronically ill appearing white male, whose temperature was 99.6 degrees Fahrenheit orally, weight 140 pounds and height was 69½ inches. His blood pressure was 130/70 mm Hg; his pulse

rate was 76 per minute. The general physical examination revealed carious teeth with poor oral hygiene; a well healed right lower rectus incision; and a large right hydrocele. The physical examination of the chest was essentially normal.

Initial laboratory tests demonstrated a normal urinalysis and a hemoglobin of 16.4 grams % and hematocrit of 49 volumes %. His leukocyte count was 14,200. His first chest roentgenogram was interpreted as showing chronic bronchitis and pulmonary emphysema and there was an oval density in the pulmonary parenchyma in the region of the right 5th anterior rib.

The patient was admitted to Memorial Hospital, Watertown, S. D. for evaluation. He was placed in isolation and diagnostic studies were begun. Skin tests for histoplasmosis, coccidioidomycosis blastomycosis were negative. His first strength (1:10,000) mantoux was positive. On admission the urinalysis was normal with the exception of a trace of albumin. Examination of his blood showed a hemoglobin of 14.2 grams %, a leukocyte count of 14,150 cells per cubic millimeter, and a differential count of 74% polymorphonuclear leucocytes, 1 eosinophil and 25% lymphocytes. The VDRL was negative. A barium meal demonstrated a normal esophagus, duodenum and small bowel, but with hypertrophy of the gastric rugae. Fluoroscopy of the chest revealed a pseudocyst from previous inflammatory disease of the left hilum. The initial workup was directed toward establishing proof of the examiner's impression of (1) metastatic tumor in the lungs possibly from an occult seminoma (2) bronchiectasis and (3) right hydrocele.

To determine the status of the right testicle a hydrocelectomy and exploration was performed and it was found to be normal. The patient was bronchoscoped during which detailed inspection of the broncho-pulmonary tree revealed it to be normal. Sputum and bronchial washings were obtained for Papanicolaou smears, cultures for routine organisms, acid fast bacilli and fungi. Three Papanicolaou smears were reported as showing inflammatory exudate with many eosinophiles. No tumor cells were found. The smears and cultures of the bronchial aspirate were negative for evidence of tuberculosis. A blood

specimen was collected for determination of complement-fixation titer of Psittacosis. This specimen was sent to the S. D. State Department of Health from where it was forwarded to the Department of Health, Education and Welfare, Communicable Disease Center, Chamblee, Georgia.

The results of pulmonary function tests are as follows with all measurements corrected to Basal temperature, pressure, and water saturation:

1. Minute volume8.26 L/min
2. Respiratory rate8.33 /min
3. Average tidal volume985 cc
4. Dead space (estimated)142 cc
5. Effective tidal volume843 cc
6. Alveolar ventilation7.0 L/min
7. Inspiratory reserve volume .855 cc
8. Inspiratory capacity1,885 cc
9. Expiratory reserve2,760 cc
10. Vital capacityV. C.3,610 cc
 - a. Predicted vital capacity 3,775 cc
 - b. V. C. (% of predicted) .95.5%
11. Maximal breathing capacity (MBC)46 L/min
 - a. Predicted M B C105 L/min
 - b. M B C (% of predicted) .44%
12. Timed vital capacity
 - a. First second42.5% of observed
 - b. Second second69% of observed
 - c. Third second82% of observed

The patient was treated with antibiotics after bronchoscopy was performed. This consisted of tetracycline (Achromycin) 250 mg. intramuscularly for the first 48 hours at six hour intervals, then the same dosage orally for an additional 24 hours followed by Chloramphenicol (Chloromycetin) 250 mg. orally every 6 hours for 7 days. Frequent leucocyte counts were obtained and the level of 14,150 on admission declined to 9,150. Moderate peripheral eosinophilia, varying from 2% to 8% was noted. Intermittent positive pressure breathing for periods of 20 minutes four times a day for 13 days was carried out. A detergent (Alevaire) and isoproterenol hydrochloride (Isuprel) in dilution of 10 drops: 100 cc. was administered using a Bennett respirator and face mask.

On this regimen of treatment the patient began to improve. He had less dyspnea, his appetite returned, and his cough disappeared. He was discharged from the hospital February 4, 1961 after 14 days of hospitalization. Up to this time we were unable to find a specific cause for his pulmonary disease.

Eight weeks later on March 30, 1961 he complained of recurrent dyspnea, particu-

larly when he was around the dust of turkeys. Two weeks previously he had returned to work at the turkey farm and had since noted a recurrence of his cough. Examination at this time revealed his liver to be palpable 6 centimeters below the right costal margin and it was tender to palpation. The tip of the spleen was palpated by one examiner but this could not be substantiated. Another roentgenogram of the chest showed pulmonary emphysema and increased bronchovascular markings thought to be consistent with bronchitis. Liver function chemistries were determined as follows: cholesterol 206.5 mg.%, alkaline phosphatase-3 Bodansky or 6 King-Armstrong units; thymol turbidity-1.8 units; Total bilirubin-.45 mg.%; and cephalin flocculation after 48 hours was negative. In spite of these normal findings, it was felt that the appearance of the hepatomegaly and possibly splenomegaly were further manifestations of the disease.

Pulmonary function tests were again performed with and without bronchodilators. In comparison to the pulmonary function studies done two months previously, there was a decrease of his vital capacity from 95% of predicted normal to 72% of predicted normal; an insignificant increase of his maximal breathing capacity from 44% of predicted normal to 46% of predicted normal; and a general decrease of about 10% for the first, second, and third seconds of the timed vital capacities. There was no essential improvement of his pulmonary function after the patient was given aerosolized isoproterenol hydrochloride (Isuprel) and 100 mg. of oral methoxyphenamine (Orthoxine). Antibiotics were not given to the patient at this time. He was treated with aerosolized isoproterenol hydrochloride for his pulmonary emphysema.

The history of recurrent dyspnea and cough related to his work with turkeys suggested the possibility of psittacosis. A second specimen of blood was sent to the State Board of Health for a repeat determination of psittacosis antibody titer. On May 19, 1961 we received the report of a four fold increase of the titer from 4 to 16. The serological results were considered diagnostic for recent infection. Further investigation of this area is presently being carried out by an epidemiologist working through the South Dakota State Department of Health.

The patient was last seen June 6, 1961. He had gained 34 pounds of weight. His symptoms had cleared with the exception of moderate dyspnea. It was felt that his dyspnea was referable to long-standing pulmonary emphysema and was not related to the previous ornithosis infection.

DISCUSSION

Ornithosis is the general term applied to an endemic virus infection of wild and domestic birds. Psittacosis, properly applied, refers to the same disease of parrots, parakeets, cockatoos and other psittacine birds. Graber and Pomeroy¹ have demonstrated that turkey ornithosis virus strains of low virulence are capable of causing disease in man. These authors demonstrated that human infections were caused by virus strains identical in serotype with those of the turkey isolates. In their epidemiological study rigid criteria were established before human cases were accepted. The transmission of ornithosis from person to person is thought to be rare,^{1, 2} however family cases have been observed in family contacts.³ The hazard to humans has been largely localized to workers employed in the slaughter and packing of turkeys and chickens. Ornithosis can be overlooked in mild cases and the patient can return to work before serological changes can develop. Because of the significant morbidity and mortality of the disease, a physician who cares for patients employed by poultry processing plants should be aware of the disease. Irons² reported 22 cases and 3 deaths among 78 employees of one establishment.

In some patients the illness may be subclinical and only serologic tests uncover these cases. In other patients the illness is a mild influenza-like illness. The onset of the disease may be insidious or sudden. The disease usually begins with vague constitutional symptoms such as chills, malaise, fever, dry cough productive of scant sputum, anorexia and headache. Progression of the disease may lead to varying degrees of involvement of the lungs, constipation or diarrhea, abdominal distension and a septic, febrile course. Subjectively and objectively there may be little correlation between the clinical and radiological findings of pulmonary disease. A relatively slow pulse is often present which is out of proportion to the fever induced. Cy-

anosis and pleuritic pain are rare findings because the pulmonary involvement is predominately hilar in location. On occasion a scattered macular eruption described as rose spots is seen and in a rural area this finding in the presence of diarrhea and abdominal distension may be easily mistaken for typhoid fever. If the pulse and respiratory rates show a progressive and inexorable increase the prognosis is poor. The infection is usually mild in children and young adults. In the older age groups ornithosis becomes increasingly more severe with the mortality rate varying between 10% and 20%. The cause of death is not accurately known as few autopsies have been obtained.

The diagnosis can be suspected if there is a history of recent contact with birds or exposure to dust from coops and brooders. The leucocyte count may be normal, depressed or elevated. There may be a mild proteinuria. Roentgenograms early in the course of the disease may reveal a hilar pneumonitis. Serial roentgenograms usually show a peripheral spread of the pulmonary infiltration. The diagnosis is verified by isolation of the infecting virus. Practically, the diagnosis is made by sending acute and convalescent blood sera to the Communicable Disease Center through the State Board of Health. A four-fold titer increase is usually considered diagnostic of a recent infection.

Illnesses that should be considered in the differential diagnosis of ornithosis are: influenza, primary atypical pneumonia, bronchopneumonia, bronchitis, metastatic malignancy, tularemia, typhoid fever, Q fever, tuberculosis, rheumatic fever, sarcoidosis and fungus infections such as coccidioidomycosis.

Excellent results have been reported by treating the patient with broad spectrum antibiotics, such as Tetracycline or Chloramphenicol. The course of therapy should be intensive. Other supportive measures are bed rest, control of cough, and use of oxygen and analgesics.

CONCLUSION

A human case of ornithosis (psittacosis) is reported. Preliminary epidemiological work suggests that the patient was infected while working with turkeys. Ornithosis has infected other flocks in this area. Because there

is a definite and serious occupational risk to those working with turkeys, both in the field and during slaughter operations, this case is being reported to alert the physicians of this area to the possibility of this disease occurring in their patients employed in the poultry industry.

ADDENDUM

A third serum sample drawn on June 2, 1961 for complement fixation titer of psittacosis was reported as being positive in dilution of 1:64. These results are compatible with recent infection by psittacosis.

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2. Irons, J. V., Sullivan, T. D., Rowen, J. Outbreak of Psittacosis (Ornithosis) from working with turkeys or chickens. *Am. J. Pub. Health* 41: 931-37, Aug. 1951.
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AFA TO MEET IN WASHINGTON, D. C.

The American Fracture Association will hold its meeting in Washington, D. C., September 17th through the 23rd, 1961. Headquarters will be the Shoreham Hotel.

Scheduled speakers will include Dr. Robert Coffey, Georgetown University Medical School; Dr. Edwin F. Cave, Professor of Orthopedic Surgery, Harvard Medical School; The Honorable J. Glenn Beall, Senator of the State of Maryland; Dr. Lent Johnson, Director of Bone Research, Armed Forces Institute of Pathology, and many others.

In addition to the educational courses, there are many side trips planned to nearby points of interest, including Walter Reed Hospital.

The post-graduate course in orthopedic surgery and fractures on Sunday, September 17th is acceptable for Category 1 credits by the American Academy of General Practice, and the regular meetings are acceptable for Category 2 credits.



Scientific

PAPER

INGESTION OF A MASSIVE DOSE OF LIBRIUM*

Report of a Case
by

James E. Gilbert, M.D.**
Aberdeen, South Dakota

Several unsuccessful attempts at suicide through oral ingestion of chlordiazepoxide (Librium) have been reported.^{1, 2} Uneventful recoveries in these instances despite presumptive evidence that the drug was rather completely absorbed suggest that the toxicity liability of heroic doses of the drug is low. In view of the possible potentiating effect of alcohol, a point far from established with regard to Librium, the present case is reported. The concomitant ingestion of large amounts of alcohol and an overdose of Librium complicate the clinical picture and consequently also detoxification management, exemplified by the current case.

CASE REPORT

Patient E. B., female, age 38, weighing 115 lbs. was admitted from the Emergency Room of St. Luke's Hospital, Aberdeen at 10:55 A.M. on August 15, 1960. She did not respond to external stimuli; her pupils were fixed; respiration was labored and rasping; the blood pressure was 100/40. From collateral evidence it appears that this patient had ingested 50 capsules, 25 mg. each, of Librium, and an undetermined amount of whiskey approximately 38 hours prior to admission. She was not discovered until 9:00 A.M. on the day of admission, consequently no stomach lavage was performed.

* Trademark for Hoffmann-La Roche Inc., Nutley, New Jersey.

** Assistant Director, Northeastern South Dakota Mental Health Center and Institute of Psychological Medicine.

At 11:00 A.M., 1,000 cc. of 10 per cent glucose was administered intravenously along with 50 mg. of Megimide. The patient responded by moving slightly and coughing mildly. Oxygen was given by mask, and mucus suctioned. At 11:40, the patient's blood pressure was 108/62, but she was still not responding. At 12:15 P.M. Megimide 25 mg. was administered, and the patient momentarily appeared somewhat alert, muttering some incoherent words. Blood pressure recorded an hour later was 100/40 and Megimide 25 mg. was administered intravenously.

At 3:00 P.M. there was no response from the patient. Pulse was 140 and respiration 18, which was noisy and moist. At 3:30 P.M. an additional 50 mg. of Megimide was given. Atropine gr. 150 was given intravenously and 600,000 units of pro-penicillin intramuscularly. Oxygen by mask was administered and mucus aspirated. Fifteen minutes later, the patient became slightly responsive after 50 mg. of Megimide. Temperature was recorded as 100.8, pulse, 120, and respiration, 20. No change was noted in the patient's condition during the following 4½ hours. At 8:15 P.M. her condition remained poor and she still did not respond to external stimuli. Megimide 50 mg. and 600,000 units of pro-penicillin were administered. Twenty minutes later 1,000 cc. of 10 per cent dextrose in water was started intravenously and a Foley catheter inserted with continuous drainage noted. At this time the patient's upper legs appeared somewhat tremulous. At 9:00 P.M. she responded slightly when spoken to. No further response was elicited until 11:45 P.M. and no significant change in the patient's condition was observed except for a slight reduction in temperature (100.2). An additional 50 mg. of Megimide was given during this time and again at 11:45 P.M. after which the patient responded verbally.

At 12:30 A.M. the following day a slight response was noted following a 50 mg. dose of Megimide. At 1:30 A.M. the patient's face was flushed and she was perspiring. Respiration was very deep, and again there was no response. Her condition remained essentially the same for the next 2½ hours when the following drugs were administered: 2 doses of Megimide 50 mg. and 600,000 units of pro-penicillin. At 4:00 A.M. the patient was

turned and rubbed, and ice bags were placed under her arms. Temperature was 99.4, pulse, 104, blood pressure, 118/70 and respiration, 24. At 5:30 A.M. her position was again changed. She was sleeping but could be aroused. The temperature rose to 102.6. Blood pressure was 120/70, pulse, 96 and respiration, 20. At 6:45 A.M., 1,000 cc. of 10 per cent glucose and dextrose in water was started intravenously and continued for two hours, during which time the patient slept, but was easily awakened and responsive when spoken to. At the completion of the intravenous feeding, the patient was awake and asking for her husband. She was able to drink fairly well from a glass later in the morning. Blood pressure was 110/70. At noon, 600,000 units of pro-penicillin were given intramuscularly. The patient appeared to be well orientated. Her face was no longer flushed, she was perspiring less and breathing easier. During the afternoon her general condition continued to improve although respiration was somewhat labored.

At 5:30 P.M., 1,000 cc. of Travert-Electrolyte Solution No. 2 was started intravenously. Respiration was deep and noisy. Pro-penicillin was administered at 8:00 P.M. when the patient was talking and responding well. Her condition continued to improve and she slept quietly through the night. At 4:00 A.M. the next morning blood pressure and pulse remained strong and stable. The patient was coughing thick phlegm. At 6:30 A.M. the temperature was 100, pulse, 98 and respiration 20. At 11:00 A.M., 1,000 cc. of Travert-Electrolyte Solution No. 2 was started intravenously and pro-penicillin 600,000 units was given intramuscularly. The patient's condition continued to improve and she was discharged three days later. The only complication that occurred was slight ulnar nerve palsy of the left arm due to pressure on the elbow when in a coma at home.

SUMMARY

A case is reported of a woman, 38 years old, who was assumed to have ingested a total of 1250 mg. of Librium plus an undetermined amount of alcohol. She was admitted to the hospital approximately 38 hours later in a comatose state. Her pupils were fixed and respiration was labored and rasping. Her

blood pressure was 100/40. Immediately upon arrival, 1,000 cc. of 10 per cent glucose, 50 mg. of Megimide and oxygen by mask were administered and mucus was suctioned. The patient remained in the hospital for 5½ days and received multiple doses of Megimide 25 and 50 mg., Atropine 150 gr., multiple doses of pro-penicillin 600,000 units and Travert-Electrolyte Solution No. 2. Intravenous feeding was given with glucose and dextrose. By noon of the second day the patient was well oriented and speaking clearly, although respiration was somewhat labored. At the time of her discharge, the patient had returned to a normal state except for slight ulnar nerve palsy in her left arm due to pressure on her elbow when in a coma at home.

Due to the undetermined amount of alcohol ingested by this patient and the possible potentiating effect that the alcohol and Librium may have had on each other, it is not possible to determine the exact effect either of these agents had in producing the state of this patient. However, the uneventful recovery after the ingestion of the heroic dose of Librium suggests a low order of toxicity of the drug.

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THE MONTH IN WASHINGTON

The American Medical Association supported the Kennedy Administration's proposal to provide \$750 million in matching funds for construction of medical, dental, public health and osteopathic schools.

In a letter to Sen. Lister Hill (D., Ala.), Chairman of the Senate Labor and Public Welfare Committee, Dr. F. J. L. Blasingame, Executive Vice President of the A.M.A., said:

"As an Association of 179,000 practicing physicians, we are vitally interested in maintaining the high quality of medical education in the United States because of its direct relationship to medical care. For over a century, the American Medical Association has been actively and effectively engaged in the improvement of medical education in the United States. It can now be said, with assurance, that medical education in this

country is superior to that found anywhere else in the world. It is not a coincidence that the improved standards of medical care in the last half century saw the elimination of sub-standard medical schools and diploma mills which had been turning out graduates in large numbers. This improvement in medical education is the result of the vigorous efforts of this Association and other interested organizations."

"We strongly believe that increased attention must be given to the adequacy of physical facilities, the availability of qualified instructors and the availability of teaching material and patients for the clinical phases of medical education if high standards of medical education are to be maintained. Any attempt to increase the number of medical students without regard to these conditions will result in a lowering of the standard of medical education. We are of the firm conviction that increase in the physical facilities available for medical education should be given priority at this time over any other federal legislation in the field of medical education."

"We believe that there is need for assistance in the expansion, construction and remodeling of the physical facilities of medical schools and, therefore, a one-time expenditure of federal funds on a matching basis, where maximum freedom of the school from federal control is assured, is justified."

The A.M.A. opposed a provision that might encourage medical schools to expand too rapidly. Dr. Blasingame said: "It is quite possible that a forced increase in freshman enrollment would be detrimental to the quality of medical education."

The Association didn't take a position on the provision of the Administration legislation that would provide federal scholarships to medical students. However, Dr. Blasingame described to the senate committee A.M.A.'s new medical scholarship and student loan programs.

The General Accounting Office found the Defense Department's Medicare program being conducted generally "in a satisfactory manner," but recommended some changes designed to correct what it considered "important deficiencies."

The Army, which administers the program of medical care for dependents of members of the armed services, took steps to put into effect most of the recommendations of the GAO, which audits federal spending for Congress.

However, Medicare officials rejected a GAO proposal for a change in physician fees.

"Our review disclosed that physicians' claims for medical care are, in general, significantly higher in states where maximum fees are made known to physicians than in those states where maximum fees are not made known," the GAO reported. "We estimate that there is an additional cost of as much as \$3 million to \$4 million annually as a result of maximum fees, rather than normal fees, being charged in the states where fee schedules are distributed to the physicians."

The GAO recommended that lower fixed fee schedules be negotiated for states where a high percentage of physicians claims are for maximum allowable fees, "subject to being raised only on the basis of clearly supported evidence of higher normal fees."

If lower fees cannot be negotiated, the GAO said, efforts should be made "to have the state medical society or other appropriate parties accept the responsibility for determining that physician claims are generally not in excess of their normal charges."

The GAO further recommended that "physicians be required to certify on each claim that the amount billed does not exceed the physician's normal fee for the medical care furnished."

The Army disagreed, saying that it believed "the present contracting concept is the most suitable to meet the requirements and is in the best interests of the government."

The A.M.A. noted that it had held from the outset that "fixed fee schedules would result in a more expensive program than if physicians were permitted to charge their normal fees."

Fixed fee schedules call for some fees above some so-called normal fees and others below average fees, the A.M.A. said, "physicians tend to 'balance out' by using fees listed in the fixed fee schedule."

Medicare was started December 7, 1956. During the first four years of the program, \$130 million was paid to civilian doctors and

\$133 million to civilian hospitals for care of 1.1 million military dependents. Maternity cases accounted for about half the total.

Medicare has asked Congress for \$73.2 million for the fiscal year 1962 beginning this July 1. This is a \$6.9 million increase over Medicare's current budget. The increase is needed, Medicare said, because of more military dependents eligible for the program's benefits and increases in the costs of services.

OB-GYN TO HOLD FALL MEETING

The **South Dakota Society of Obstetricians and Gynecologists** are holding their **Fall Meeting** in Yankton, Labor Day week-end, **September 2nd and 3rd**. All physicians are invited to attend.

On the spot registration will be at The Black Steer Restaurant, between 9:30 and 11:00 A.M., Saturday, September 2nd but it would be wise to write to Dr. Brooks Ranney, The Yankton Clinic, 400 Park Avenue, Yankton, South Dakota for advance registration, specific program, and hotel and motel information.

The scientific program will include: 1) two speakers from outside South Dakota (one speaking on an Obstetric subject and one speaking on a Gynecologic subject), 2) a symposium by South Dakota doctors on a subject of current interest, and 3) a question-and-answer session.

The recreational program will include a luncheon and entertainment for the ladies, a banquet with entertainment, golfing, motor boating, sailboating, excursion boating, a tour of the dam, powerhouse and fish hatchery, etc.

OMAHA MIDWEST OPENS OCT. 30

The Omaha Midwest Clinic Society will hold its 29th annual assembly in the Civic Auditorium at Omaha, Nebraska, October 30th through November 2nd. Scheduled as guest speakers are A. E. Bennett, M.D., University of California; Howard P. House, M.D., University of Southern California; John W. Kerklin, M.D., Mayo Clinic; Gordon McHardy, M.D., Louisiana State University; John H. Moyer, M.D., Hahnemann Medical College, Philadelphia; and many others.

The program has been authorized as acceptable for Category 1 credits in the American Academy of General Practice.

MEDICAL LIBRARY BOOKSHELF



TISSUE TECHNOLOGY

The following article describing the Tissue Technology Workshop held at the Medical School was written by Dr. George W. Knabe, Head of the Pathology Department:

A Workshop in Tissue Technology was held May 25, 26, 27, 1961 at Vermillion, South Dakota. It was sponsored jointly by the South Dakota Medical Association, the South Dakota Society of Pathologists, the School of Medicine, and Extension Division of the State University of South Dakota. The program was presented by Mr. James E. Michael, Chief Histology Technician of Bennett-Clarkson Memorial and St. John's Hospitals in Rapid City. Drs. Harold L. Frost and Wayne A. Geib of Rapid City helped in the organization of the workshop and staff of the departments of pathology and anatomy of the Medical School assisted in its presentation. The program was designed to provide medical technologists and technicians a review of fundamental methods and special techniques employed in tissue technology. The participants performed a wide variety of procedures under supervision. All who attended agreed that the workshop was a valuable contribution toward the improved practice of histopathologic technique.

The books and journals recommended for the various techniques included in the mimeographed copies distributed to the participants of the workshop were the following:

1. Verhoeff-VanGieson counterstain. Procedure for elastic, collagen and muscle fibers. **Histopathologic technique and practical histochemistry** by R. D. Lillie, Blakiston, 1954, p. 359-346.

This practical and factual book with methods described in a clear and understandable way is a helpful guide to laboratory procedures. Data is given on all the essential controllable factors—optimal times, temperature pH levels and others. A 1948 edition of Dr. Lillie's book was entitled **Histopathologic Technic**.

2. Acid fast procedure. **Am. J. Clin. Path. Tech. supp.**, 1951.

3. Brown and Brenn stain for bacteria in tissue. "A method for the differential staining of gram-positive and gram-negative bacteria in tissue sections" **Bull. of the John Hop. Hosp.** v. 48, p. 69, 1931.

This is particularly valuable in the case of mixed infections where both gram-positive and gram-negative bacteria may be found and differentiated.

4. "Flaming red as a dye for the demonstration of lipids" by Frederick A. Putt. **Lab. Invest.** v. 5, p. 378-379, 1956.

This introduces an oil-soluble dye-Flaming Red—using propylene glycol as a solvent for the demonstration of fatty substances in tissue sections. The substitution of Flaming Red for Sudan IV. C.1 #258 has been found superior for lipid demonstration resulting in a deep red stain.

5. "A stain for fungi in tissue sections and smears using Gomori's methenamine, silver nitrate technic" by Robt. G. Grocott. **Am. J. of Clin. Path.** v. 25, p. 975-979, 1955.

This method using readily available reagents and stable solutions produces highly photogenic preparations without the use of costly filters.

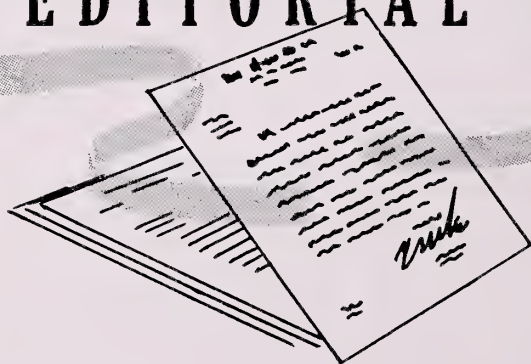
6. "A five-hour variant of Gomori's methenamine silver method for argentaffin cells" by H. J. Burtner and R. D. Lillie. **Stain Tech.** v. 24, p. 225, 1949.

This has been modified and considerably accelerated by almost doubling the silver concentration and raising the incubation temperature 60 C. Argentaffin cells are selectively impregnated in 3 to 4 hours and the background remains relatively clear up to 4 hours. The contrasts are clearer than with ammoniated silver methods of Masson and Cluckman.

7. Weil's method for myelin sheath. **Textbook of neuropathology** by A. Weil, Grune and Stratton, 1945 p. 328.

Used for sections embedded either in paraffin or celloidin. Best results with celloidin sections cut from 25-30 microns thick.

EDITORIAL PAGE



NEW DUES FOR YOU IN '62

The Council and House of Delegates of the South Dakota State Medical Association for the first time in many years were faced with the prospect of an unbalanced budget for the coming year.

After careful consideration of the overall financial picture, the Council and House both endorsed a raise in the State dues starting January 1, 1962.

In making the decision, the first consideration was whether or not the increase was necessitated because of the move to the new headquarters building. Facts and figures proved to them that the Building Fund was the one solvent operation of the Association. Rental income for the building is adequate to meet all expenses of the building plus paying off loans from physicians, as well as the interest.

Study of the problem further indicated that increased requests for services plus higher costs for providing those services had pushed the total cost of operation far above the dues income for the past year.

A surplus in the Journal fund had kept the operation in the black. Now, due to a 30% decrease in Journal revenue, it is not in a position to do more than pay its own way.

Actually, the extensive operations of the headquarters office provide services at a minimal cost to the members in dues. North Dakota saw fit to increase their state dues to \$100.00 a year ago. A journeyman printer in Sioux Falls with a net income of about 25% — 30% of the average practitioner's net income will pay as much as \$270.00 per annum for dues in his organization. Inflation has accounted for most of these increases.

It has been our experience that a dues increase helps an organization to develop more interest on the part of its members. They want to know where their money is being spent, which is most proper. We hope your reaction is one of greater interest.

HAZARDS OF X-RAYS*

The Executive Board of the American Academy of Pediatrics approves the following recommendations of the Committee on Radiation Hazards and Epidemiology of Mal-

formations for publication as the official position in the Academy with respect to the use of fluoroscopes in pediatricians' offices.

I. The American Academy of Pediatrics advises against the installation of fluoroscopes for use in pediatricians' offices except under unusual circumstances.

II. The American Academy of Pediatrics recommends the existing fluoroscopes in pediatricians' offices be examined by a qualified radiophysicist for both electrical and radiation hazards, that all necessary physical safeguards be instituted promptly, and that the radiation output be posted conspicuously on or near the apparatus. Furthermore, it is recommended that fluoroscopes be inspected annually.

III. "Routine" fluoroscopy of children, or fluoroscopy for demonstration to parents is strongly condemned.

IV. Pediatricians are urged to consult with their radiologic colleagues when radiologic or fluoroscopic examination is being considered rather than to attempt the procedure themselves. They are also urged to encourage their radiologic colleagues to keep in mind the special susceptibility of children's tissues to radiation so that the maximum information can be obtained from minimal radiation dose by employing all available and feasible advances in equipment and methodology.

* By the Committee on Radiation Hazards and Epidemiology of Malformations on Diagnostic Use of X-rays, American Academy of Pediatrics.

FIRES AND EXPLOSIONS IN THE OPERATING ROOM

Although the incidence of fires and explosions is apparently declining, they represent a potential hazard in every operating room in this state and in the nation.

For combustion to occur, there must not only be a source of ignition, which has received considerable emphasis but there must also be a volatile flammable substance, oxygen and a combustible mixture of the

flammable substance with oxygen.

Only nitrous oxide, trichlorethylene, fluothane and chloroform are non-flammable. All other volatile anesthetic agents are potentially flammable.

Oxygen is readily available, not only as straight oxygen from a cylinder, but also in the air and in nitrous oxide, and the explosive mixture depends somewhat on the ratio of the flammable substance to oxygen. In the anesthetic range, one is generally dealing with a flammable mixture if flammable anesthetics are used. The usual source of ignition is a static discharge, which is probably the greatest single hazard in the operating room.

All flammable anesthetics carry the hazard of fire and explosion and should not be exposed to ignition sources such as X-ray, cautery, open flame, or other electrical equipment which is not gas proof. Should an immediate necessity arise for using a piece of equipment considered an ignition source, the flammable agent should be discontinued and a wet cloth barrier used to wall off the gases from the region of ignition. Adding a damping agent such as nitrogen or helium to the mixture may be effective.

Where flammable anesthetics are to be used every precaution should be taken to prevent static electrical charges. All objects in the operating room should be kept at the same potential through conductive flooring or wet towel intercoupling, conductive footwear, the use of conductive rubber in necessary rubber parts of all equipment, avoiding insulating materials on exposed surfaces and elimination of static blankets and outer clothing such as wool, rayon, nylon and other synthetic fibers. A sudden disconnection of anesthetic equipment may result in a static spark. Adequate ventilation of the room and maintenance of humidity above 55% will reduce the static electrical hazards.

A study of each individual operating room and the surgical technique by the individual surgeon will easily result in eliminating the hazards of fire and explosion.

Robert E. Van Demark, M.D.

SOUTH DAKOTA MEDICAL SERVICE, INC.

COMPARATIVE STATEMENTS OF INCOME AND EXPENSES

YEARS ENDED DECEMBER 31, 1959 AND DECEMBER 31, 1960

	December 31,		Increase DECREASE
	1959	1960	
Receipts:			
Earned subscription income	\$238,933.82	\$340,699.60	\$101,765.78
Interest earned	468.30	1,220.67	752.37
	\$239,402.12	\$341,920.27	\$102,518.15
Medical and Surgical Expenses:			
Participating physicians	\$109,772.75	\$182,133.64	\$ 72,360.89
Non-participating physicians	50,375.40	62,677.18	12,301.78
	\$160,148.15	\$244,810.82	\$ 84,662.67
Operating Expenses:			
Salaries	\$ 16,405.44	\$ 20,147.97	\$ 3,742.53
Travel expense	4,925.78	4,930.12	4.34
Rent	720.00	2,465.00	1,745.00
Board meeting expense	536.96	681.19	144.23
Boards, bureaus and associations	377.89	780.37	402.48
Legal expense	535.00	1,536.37	1,001.37
Printing and stationery	1,070.93	5,338.60	4,267.67
Books, newspapers and periodicals	162.98	12.00	150.98
Postage	611.23	1,210.26	599.03
Telephone and telegraph	471.98	1,030.24	558.26
Advertising	3,582.21	4,466.05	883.84
Insurance—except real estate	264.30	188.80	75.50
Employee relations	231.14	287.90	56.76
Auditing and consulting services	425.15	401.96	23.19
Outside service agencies	25,806.27	29,327.23	3,520.96
Miscellaneous expense	160.45	45.70	114.75
Social security tax expense	331.53	468.51	136.98
Interest paid	404.00	52.65	351.35
Taxes—licenses and fees	1,468.94	1,505.42	36.48
Furniture and equipment expense	1,591.72	5,852.92	4,261.20
Sub Total	\$ 60,083.90	\$ 80,729.26	\$ 20,645.36
Less reimbursement—Medicare	3,185.91	3,596.99	411.08
Net Operating Expenses	\$ 56,897.99	\$ 77,132.27	\$ 20,234.28
Total expenses	\$217,046.14	\$321,943.09	\$104,896.95
Net Operating Income	\$ 22,355.98	\$ 19,977.18	\$ 2,378.80
Other Charges or Credits:			
Estimated reserve for unreported services	7,000.00	6,000.00	1,000.00
Net Gain to Surplus—Unassigned	\$ 15,355.98	\$ 13,977.18	\$ 1,378.80

Medicare

Financial Report

DATE	CLAIM COST	ADMINISTRATION COST	TOTAL	% ADMINISTRATION COST
Apr. 60	\$ 3,433.65	\$ 293.59	\$ 3,727.24	8.6%
May 60	4,621.25	294.81	4,916.06	6.4
June 60	5,220.50	293.62	5,514.12	5.6
July 60	4,651.50	304.84	4,956.44	6.6
Aug. 60	3,873.50	327.09	4,200.59	8.4
Sept. 60	7,173.00	320.07	7,493.07	4.5
Oct. 60	3,574.21	208.84	3,783.05	5.8
Nov. 60	4,536.55	228.44	4,764.99	5.0
Dec. 60	4,439.62	252.22	4,691.84	5.7
Jan. 61	3,429.25	228.77	3,658.02	6.6
Feb. 61	4,704.50	259.52	4,964.02	5.5
Mar. 61	4,565.50	276.45	4,841.95	6.1
Total	\$54,223.03	\$3,288.26	\$57,511.29	74.8%
Average	\$ 4,518.59	\$ 274.02	\$ 4,792.61	6.2%

SOUTH DAKOTA MEDICAL SERVICE, INC.

COMPARATIVE BALANCE SHEETS

DECEMBER 31, 1959 AND DECEMBER 31, 1960

ASSETS

	December 31,		Increase
	1959	1960	DECREASE
Ledger Assets:			
Cash on hand and in bank	\$64,288.18	\$ 44,358.76	\$19,929.42
Reserve fund	9,693.35	-0-	9,693.35
Accounts receivable	-0-	7,449.80	7,449.80
Certificate of Deposit—First National Bank	5,000.00	5,000.00	-0-
Certificate of Deposit—Farmers & Merchants Bank	5,000.00	5,000.00	-0-
Certificate of Deposit—Western State Bank	-0-	10,000.00	10,000.00
U. S. Government—Treasury Note	-0-	10,256.52	10,256.52
Stock—Rushmore Credit Corporation	1,000.00	1,000.00	-0-
Note receivable—Newcomb Finance Co.	4,000.00	4,000.00	-0-
Mortgage Loan—S. D. State Medical Ass'n	-0-	24,740.87	24,740.87
Total Ledger Assets	\$88,981.53	\$111,805.95	\$22,824.42

LIABILITIES AND RESERVES

Liabilities:			
Notes payable—Doctors and Medical Institutions	\$ 3,100.00	\$ -0-	\$ 3,100.00
Accrued State of South Dakota premium tax payable	1,194.67	1,472.92	278.25
Withholding tax payable	192.10	251.30	59.20
Social Security Tax Payable	12.19	19.52	7.33
Advance payment—Federal Employees	-0-	3,000.00	3,000.00
Total Liabilities	\$ 4,498.96	\$ 4,743.74	\$ 244.78
Deferred Income:			
Unearned subscriber dues	\$17,268.29	\$ 19,870.75	\$ 2,602.46
Reserves:			
Estimated claims—not reported	\$27,000.00	\$ 33,000.00	\$ 6,000.00
Surplus:	\$ 40,214.28	\$ 54,191.46	\$13,977.18
Total Liabilities and Reserve	\$88, 981.53	\$111,805.95	\$22,824.42

OLD AGE ASSISTANCE MEDICAL CARE PROGRAM

The appropriation measure to implement the 1957 enabling legislation creating an Old Age Assistance medical program was passed during the 1961 legislative session.

The program, which is scheduled to start in July, will be a part of the huge State Welfare Department operation. Representatives of the medical, dental, hospital, pharmaceutical, and county commissioners and nursing home associations have worked closely together to provide guidance for the program.

These associations, along with the executives of Blue Cross and Blue Shield have made recommendations to State officials which will affect Blue Shield's operation in this area.

The basic recommendations as far as physicians' services are concerned are outlined below:

A. Welfare Department

1. Determine scope of program.
2. Determine eligibility.
3. Negotiate with vendors of care and their fiscal agents for administrative services.
4. Audit vendors administrative costs not less than annually.
5. Make payments to the vendors through their fiscal agents at negotiated rates for such services.
6. Maintain such records as may be necessary for the proper utilization of State and Federal Funds.

B. Medical Association

1. Provide a Review Committee in Major Hospitals
Aberdeen, Belle Fourche, Brookings, Chamberlain, Deadwood, 2-Hot Springs, Huron, Lemmon, Madison, 2-Sioux Falls, 2-Sisseton, Vermillion, 2-Watertown, Winner, Yankton, Canton.
 2. Provide Area Review Committees - to review status of program in rural areas.
 3. Provide a State Level Review Committee to handle disputes or any other material from Area or Hospital Committees.
 4. Also provide a Fee Schedule to be negotiated with the State Welfare Department based on the South Dakota State Medical Association Relative Value Fee Schedule.
 5. Encourage physicians to provide services and will enter into agreements with them to provide such services on the fee schedule indicated above.
- Above provided at no cost to the State.

C. Blue Shield

1. Supply physicians with informational material on policies and procedures.
2. Will receive reports and bills for services rendered by physicians and submit a semi-weekly consolidated invoice for such services.
3. Maintain committee in cooperation with the Medical Association to consider complaints and to assist the Welfare Department on all matters within the scope of the program.

4. Blue Shield will provide budgetary, statistical, and cost information required by the Welfare Department.
5. Blue Shield will prepare and distribute claim forms subject to approval of the Welfare Department.
6. Participate with the Medical Association in the establishment of fee schedule.
7. Submit to the Welfare Department copies of claims and/or data processed punch cards, on all services rendered under this program.
8. Blue Shield will negotiate administrative costs with the Welfare Department for proper operation of the program.

It is recommended that this corporate body approve this type of program and offer its administrative services in entering a contract with the State Welfare Department.

The Pharmaceutical Association has indicated its willingness to enter a three way contract with the Welfare Department utilizing Blue Shield as the third-party fiscal agent.

It is recommended that the corporate body approve such fiscal operation on behalf of the South Dakota Pharmaceutical Association.

The Dental Association has indicated its willingness to enter a three way contract with the Welfare Department utilizing Blue Shield as the third-party fiscal agent.

It is recommended that the corporate body approve such fiscal operation on behalf of the South Dakota Dental Association.

EXECUTIVE COMMITTEE MEETING

South Dakota State Medical Association

Pierre, South Dakota

JULY 10, 1961

10:00 A.M.

The meeting was called to order by the president, Dr. C. J. McDonald. Present for roll call were Drs. C. J. McDonald, Magni Davidson, M. C. Tank, A. P. Reding, C. Rodney Stoltz, R. H. Hayes, and staff members John C. Foster and Phyllis Sundstrom.

On motion, duly made and seconded, the minutes of the last meeting were dispensed with by unanimous consent and a discussion entered into on the Old Age Assistance Medical Care Program.

On motion, duly made and seconded, the Committee recommended that the figure of \$3.50 per unit on the Relative Value Study be offered to the Welfare Department and that the administrative costs of the fiscal agent be deducted from this amount prior to payment for physicians' services.

On motion, duly made and seconded, it was determined that screening committees would be named by the Medical Association only if the fiscal agent approach were utilized.

The Committee then studied a proposed scope of program adopted as a resolution of the State Welfare Commission. It was then

decided by unanimous consent that if a fiscal agent type of program were to be adopted that the physicians would be informed by mail rather than by personal visits to each District Medical Society due to the shortage of time before inauguration of the program.

After a noon recess, the Committee met with the staff of the Welfare Department at 1:30 P.M. and with the Welfare Commission at 3:00 P.M. The resolutions of the Committee were presented to the Welfare Commission and the Welfare Commission revised its own resolution to provide for the fiscal agent type of program. The meeting was adjourned at 4:30 P.M.

SPECIAL EXECUTIVE COMMITTEE MEETING

JULY 17, 1961

CONFERENCE TELEPHONE

The special meeting of the Executive Committee was called to order at 2:00 P.M. Present for roll call were Drs. McDonald, Hayes, Tank, Stoltz, and Reding, and executive secretary Foster. A quorum was declared present.

A discussion was held on the use of a conversion factor for the Relative Value Study for Indigent patients under the O.A.A. Medical Care Program. On motion duly made and seconded, it was decided to offer a conversion factor of \$3.20 per unit to the Department.

The meeting adjourned at 2:30 P.M.

ACS CONGRESS SET FOR CHICAGO

The 47th annual Clinical Congress of the American College of Surgeons will be held in Chicago, October 2 through 6, 1961. It will feature research reports, motion pictures, cine clinics, operative telecasts, and scientific and industrial exhibits.

Major addresses will be given by Dr. Robert M. Zollinger, Ohio State University College of Medicine; Dr. Francis D. Moore, Harvard Medical School; and Dr. Preston A. Wade, Cornell University Medical School.

This year's historic Martin Memorial Lecture, commemorating the College founder, Dr. Franklin H. Martin, will be given by Admiral Hyman G. Rickover.

Dr. John T. Reynolds, Chicago, is chairman of the committee on local arrangements.

**REPORT ON ACTIONS OF THE HOUSE
OF DELEGATES*
AMERICAN MEDICAL ASSOCIATION
110th ANNUAL MEETING
JUNE 25-30, 1961 NEW YORK CITY**

* This report, prepared by the A.M.A.'s Executive Vice President's office, is published in lieu of the report submitted by the A.M.A. Delegate from South Dakota.

Osteopathy, medical discipline, communications, surgical assistants, drug legislation, general practice residencies, relations with allied health professions and services, and poliomyelitis vaccine were among the major subjects covered by 115 resolutions and 28 reports acted upon by the House of Delegates at the American Medical Association's 110th Annual Meeting held June 25-30 in New York City.

Dr. George M. Fister of Ogden, Utah, member of the AMA Board of Trustees and previously a member of the House of Delegates, was named president-elect of the Association. Dr. Fister will become president at the June, 1962, annual meeting in Chicago, succeeding Dr. Leonard W. Larson of Bismarck, North Dakota, who assumed office at the Tuesday night inaugural ceremony in New York.

The AMA 1961 Distinguished Service Award was voted to Dr. Walter H. Judd of Minneapolis, physician and member of Congress, for his contributions as a medical missionary, humanitarian and statesman devoted to world peace.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 56,315, including 22,681 physicians.

Osteopathy

In considering a report of the Judicial Council and three resolutions on the subject of osteopathy, the House of Delegates agreed with the intent of the report and resolutions, but instead adopted the following statement of AMA policy:

"1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

"2. There can never to a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

"3. Recognition should be given to the transition presently occurring in osteopathy,

which is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

"4. It is appropriate for the American Medical Association to **reappraise its application of policy** regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteopathic medicine, in view of the fact that the colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

"5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at national level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical."

Medical Discipline

In a major move designed to strengthen the profession's disciplinary mechanisms, the House approved the conclusions and recommendations of the Medical Disciplinary Committee, with only three word changes. The House discharged the committee with thanks and commendation and directed that its functions be assumed as a continuing activity of the Judicial Council.

One recommendation suggests that "The bylaws of the American Medical Association be changed to confer original jurisdiction on the Association to suspend or revoke the AMA membership of a physician guilty of a violation of the Principles of Medical Ethics or the ethical policy of the American Medical Association regardless of whether action has been taken against him at local level."

Another "encourages and urges that each state association report annually to the American Medical Association all major disciplinary actions taken within its jurisdiction during the preceding calendar year."

The report urged state and county medical societies to utilize grievance committees as "grand juries" to initiate action against an offender so as to obviate the necessity of making an individual member of a medical society complain against a fellow member.

The House suggested that each medical school develop and present a required course in ethics and socio-economic principles, and that each state board of medical examiners include questions on ethics and proper socio-economic practices in all examinations for license.

The report concluded with a recommendation that "American medicine at the national, state and local level maintain an active, aggressive and continuing interest in medical disciplinary matters so that, by a demonstration of good faith, medicine will be permitted to continue to discipline its own members when necessary."

Communications

Acting upon four resolutions related to the Association's public relations program, the House adopted a substitute resolution directing the Speaker of the House of Delegates to name seven elected members of the House as a special committee "to study and continually advise the Board of Trustees on the broad planning and coordination of all phases of communications of the American Medical Association, so that the public and the members of the medical profession are properly and adequately advised of the policies and concern of the medical profession with respect to all phases and aspects of medical care for all people."

The House agreed with a reference committee opinion that "we have a very adequate Division within the A.M.A. capable of implementing any program of communications." The approved committee report also said that "the Communications Division of the A.M.A. needs the active support and cooperation of the House and of all members of the Association."

Surgical Assistants

In considering a Board report and two resolutions on the subject of surgical assist-

ant's fees, the House approved the following five basic principles developed by the Judicial Council and the Council on Medical Service:

"1. Each member of the A.M.A. is expected to observe the Principles of Medical Ethics in every aspect of his professional practice.

"2. Each doctor engaged in the care of the patient is entitled to compensation commensurate with the value of the services he has personally rendered.

"3. No doctor should bill or be paid for a service which he does not perform; mere referral does not constitute a professional service for which a professional charge should be made or for which a fee may be ethically paid or received.

"4. It is ethically permissible for a surgeon to employ other physicians to assist him in the performance of a surgical procedure and to pay a reasonable amount for such assistance.

"This principle applies whether or not an assisting physician is the referring doctor and whether he is on a per-case or full-time basis. The controlling factor is the status of the assisting physician. If the practice is a subterfuge to split fees or to divide an insurance benefit, or if the physician is not actually employed and used as a bona fide assistant, then the practice is contrary to ethical principles.

"5. Under all other circumstances where services are rendered by more than one physician, each physician should submit his own bill to the patient and be compensated separately."

Efficacy of Drugs

The House strongly endorsed a Board report which pointed out the problems that would result from amending the Food, Drug and Cosmetic Act to authorize the Food and Drug Administration to determine the efficacy, as well as the safety, of a prescription drug prior to the approval of a new drug application. The A.M.A. will oppose such legislation before the Kefauver Committee, the report pointed out, on the basis that "a decision with respect to the effectiveness of drugs is dependent upon extended research, experimentation and usage." The House agreed that vesting such authority in the Food and Drug Administration would operate to limit research, the marketing of drugs and the exercise of discretion by the medical profession.

"The marketing of a relatively useless drug is infinitely less serious than would be the arbitrary exclusion from the market of a drug that might have been life saving for many persons," the House declared.

General Practice Residencies

Eight resolutions were introduced on the subject of creating new two-year, residency training programs in general practice. The House agreed that there appears to be a need for such programs for those individuals who desire more experience in obstetrics and surgery than may be available in the currently existing Family Practice Program. It approved a substitute resolution directing the Council on Medical Education and Hospitals to consider for approval other two-year programs in general practice which incorporate experience in obstetrics and surgery. The Council will review these programs on the basis of their individual merits and conduct a long-range evaluation of the new programs as well as the previously established Family Practice Programs.

Relations With Other Health Professions and Services

The House considered a Board report and twelve resolutions dealing with various aspects of medicine's relationships with allied health professions and services, including optometry. The Board report recommended the creation of a new A.M.A. Council to handle all the problems involved. The House, however, accepted a reference committee suggestion for establishment of a new Commission to Coordinate the Relationships of Medicine with Allied Health Professions and Services. The Commission will be composed of seven members appointed by the Speaker of the House. Subcommittees, composed of from three to five members selected by the Commission from lists of names submitted by the scientific sections, will consider problems in specific areas. The Commission will correlate and catalogue the reports of the subcommittees and will act as liaison agents between the subcommittees and those A.M.A. Councils where there may be overlapping interests.

Polio Vaccine

The House approved a report by the Council on Drugs on the present status of poliomyelitis vaccination in the United States and urged that it be made available to all phys-

icians through the most effective communications media. The report clearly outlines procedures recommended for implementation of mass vaccination with the new oral vaccine when it becomes available. The House complimented the Council on its "clear and succinct statement on the initiation of the new campaign which will be needed to promote the new vaccine." The House agreed that the report provides the practicing physician with a reliable series of answers to the many questions which will arise during the change-over from Salk vaccine to oral vaccine. The report emphasizes, however, that "physicians should encourage, support and extend the use of Salk vaccine on the widest possible scale at least until the oral polio-virus vaccines currently under development and clinical trial become available."

Miscellaneous Actions

In dealing with resolutions and reports on a wide variety of other subjects, the House also:

Approved the "**Guides to Physician Relationships with Medical Care Plans**," submitted by the Council on Medical Service, with these two changes: deletion of item 5 under "Responsibilities of the Medical Society," which said "To recognize that properly qualified physicians employed by, or otherwise serving, medical care plans should not be denied professional rights and privileges because of their service to such plans," and addition of a new item 1 under "Responsibilities of the Medical Care Plan," which reads: "To provide the beneficiary of the plan with free choice of qualified physicians";

Reaffirmed its support of the **Kerr-Mills** program for the needy and near-needy aged and its opposition to any legislation of the **King-Anderson** type, declaring that the medical profession "will not be a willing party to implementing any system which we believe to be detrimental to the public welfare";

Approved a markedly expanded **drug information program** submitted by the Board of Trustees and the Council on Drugs;

Adopted the final report of the **Special Study Committee** of the Council on Medical Education and Hospitals and recommended that copies be sent to all medical school deans in the United States;

Decided to hold the **1963 Clinical Meeting** in Portland, Oregon, instead of Las Vegas, Nevada, as recommended by the Board;

Approved a plan by the new A.M.A. Department of International Health to cooperate in the recruitment of volunteer physicians for emergency medical service in **foreign mission fields**;

Agreed to an increase of \$20 in the annual A.M.A. **membership dues** to be implemented over a period of two years: \$10 on January 1, 1962, and \$10 additional on January 1, 1963;

Discontinued the Association's **General Practitioner of the Year** award;

Opposed legislative and administrative mandates which would compel physicians to prescribe drugs, or require pharmaceuticals to be sold, by **generic names** only;

Reaffirmed the Association's opposition to compulsory inclusion of physicians under the **Social Security** system;

Urged immediate legislation that will provide strong economic motivation for the construction and maintenance of **fallout shelters**;

Disapproved two resolutions which would have discontinued the scientific activities at the **Clinical Meetings**;

Urged **immunization campaigns** against both tetanus and influenza, and

Asked state and county medical societies to give full support to the **First National Congress on Medical Quackery** to be jointly sponsored next October 6-7 in Washington, D. C., by the A.M.A. and the Food and Drug Administration.

Opening Session

At the opening session on Monday, Dr. E. Vincent Askey of Los Angeles, retiring A.M.A. president, challenged physicians and medical organizations to re-examine their own efforts to strengthen and improve medicine, and he warned against defeatism and failure to accept personal responsibility for answering criticisms. Dr. Larson, then president-elect, called on the profession to strengthen methods of self-discipline in both the state and county societies, adding that physicians must be concerned with improper or incompetent practice and unethical actions of all kinds. The 1961 Goldberger Award in Clinical Nutrition was presented to Dr. Frederick J. Stare, chairman of the Department of Nutrition at Harvard Medical School.

Inaugural Ceremony

Dr. Larson, in his inaugural address Tuesday night, said that the really good doctor,

guided by the professional spirit, will always remember that medicine exists for just one purpose — to serve humanity. When the essence of that spirit is diluted or destroyed, either in an individual physician or in a nation, he added, medicine ceases to be a profession in the highest sense of the word. Dr. Larson also presented the Distinguished Service Award medal to Rep. Judd.

Election of Officers

In addition to Dr. Fister, the new president-elect, the following officers were named at the Thursday session:

Dr. Eustace A. Allen of Atlanta, Ga., vice president; Dr. Norman A. Welch of Boston, re-elected speaker of the House, and Dr. Milford O. Rouse of Dallas, Tex., re-elected vice speaker.

Elected to the Board of Trustees were Dr. Wesley W. Hall of Reno, Nev., to succeed Dr. Fister; Dr. Homer L. Pearson, Jr., of Miami, Fla., to replace Dr. Julian P. Price of Florence, S. C., and Dr. Charles L. Hudson of Cleveland, Ohio, to fill out the term of the late Dr. Cleon A. Nafe of Indianapolis. The Board named the following officers: chairman, Dr. Hugh Hussey of Washington, D. C.; vice chairman, Dr. Percy Hopkins of Chicago, and secretary, Dr. James Z. Appel of Lancaster, Pa.

Named to the Judicial Council were Dr. Robertson Ward of San Francisco, to succeed himself, and Dr. Elmer G. Shelley of North East, Pa., to replace Dr. Pearson.

Re-elected to the Council on Constitution and Bylaws was Dr. Walter E. Vest of Huntington, W. Va.

New Members of the Council on Medical Service are Dr. Charles Ashworth of Providence, R. I., succeeding Dr. Carlton Wertz of Buffalo, N. Y., and Dr. Burtis E. Montgomery of Harrisburg, Ill., to succeed Dr. Charles Hudson of Cleveland.

For the Council on Medical Education and Hospitals, Dr. Dwight L. Wilbur of San Francisco was elected to succeed Dr. John W. Cline of the same city, and Dr. Kenneth C. Sawyer of Denver, Colo., was named to succeed Dr. Guy A. Caldwell of New Orleans.

F. J. L. Blasingame, M.D.
Executive Vice President
American Medical Association

P R E S I D E N T ' S P A G E



In a recent regional legislative conference of the American Medical Association in Minneapolis, it was brought out that hearings on the King Bill will begin around the middle of July. We have many good friends on the House Ways and Means Committee that has this bill, but if enough pressure is put on the other members of Congress, the bill might reach the floor of the House. Our State Association and district medical societies are writing this committee, opposing this bill, and Dr. Lampert, our American Medical Association delegate, will appear in person before the committee in opposition to the King Bill.

As of June 1st, the Mills-Kerr bill has been implemented and is in effect in nine states; about to go into effect in three; six others have implemented but are not as yet in effect; and about twenty states are getting legislation into their respective legislatures for action. If the Mills-Kerr Bill would be implemented in enough states, there would be no need for the King Bill. You may remember that our 1961 legislature put a two-year study on our efforts of implementing this bill.

Our old friend, the Keogh Bill, has again passed the House and there is some chance it will pass the Senate. However, it has failed to pass the Senate on two other occasions.

The American Medical Association will soon establish a Drug Information Service. Detailed information on all new drugs will be passed on to individual A.M.A. members. This should be of great help to all of us in evaluating the many new drugs that come out each month.

The start of our Old Age Assistance program here in South Dakota has been temporarily delayed. More of that next time.

C. J. McDonald, M.D.

President

NATIONAL SAMA CONVENTION REPORT FOR 1961

The National Student American Medical Association Convention held in Chicago May 3-7 was very impressive to me. We were fortunate this year to have both a delegate and an alternate delegate attend, myself as Delegate and Alan Brevick as Alternate Delegate. We both took our wives who were equally well represented at the WA-SAMA convention also being held — Norma (my wife) became Regional Director for this area.

We were busy from the minute we arrived Wednesday evening until after the final session of the House of Delegates was over early Sunday afternoon. Thursday morning the House of Delegates convened. The delegates and alternates were introduced and seated at this time, representing over 50 medical schools. Over 50 resolutions were presented to the House for some action. The various resolutions were divided among four committees — Graduate Training Committee, Medical Education Committee, Legislative Committee and Miscellaneous Business Committee. I was fortunate enough to be placed on the Medical Education Committee. Both open and closed sessions were held by the committees to discuss the various resolutions. Many were altered or rewritten before being re-presented to the House at its final session. I might mention a few:

From the Legislative Committee:

The Kerr-Mills Bill was discussed. It was decided that this bill is a positive step in the right direction toward solving the problem of medical care for the aged. Each individual state should adopt this bill. Local SAMA Chapters will take an active part in bringing the bill and its importance to the attention of various state legislatures of the country and give active support for its adoption.

The King-Anderson health plan was also discussed — SAMA being strongly opposed to this bill. SAMA is opposed to any "compulsory" social security for physicians and this sentiment will be conveyed to the members of congress concerned.

Prior to the convention a Standing Committee had studied the organization and policies of the Veterans Administration. Many of the VA Hospital beds are being occupied by and federal funds being used for treat-

ment of veterans with non-service connected illnesses or disabilities. We feel that this is not right and that some action should be taken.

From the Committee on Miscellaneous Business:

Each member was strongly urged to write his respective Congressmen and Senators, voicing his individualistic opinion on the various current legislation and proposals.

This committee had some discussion on advertising and publicity and the various effects on the medical profession which proved quite interesting.

From the Committee on Graduate Training:

It is the firm conviction of the SAMA that every intern and resident be paid a salary which reflects his educational achievements, the services that he renders, and the responsibilities that he accepts; and a minimum graded salary consistent with the physician's level of training and the cost of living in his geographic location be established by the responsible council of the American Medical Association in concert with such a group as the American Hospital Association.

The committee also looked into the possibility of revision of the fulfillment of military obligation as presently provided by law.

From the Committee on Medical Education:

There was much discussion concerning federal scholarships and loans, including the Kennedy Plan. It was decided that other means of obtaining scholarships and loans would be more beneficial to the medical profession. "Other means" would be for SAMA to work with State and County Medical Societies to effect an increase in funds available for long term, low interest loans and scholarships to medical students. Also, for SAMA to discuss with industries the possibility of establishing long term, low interest loan funds and scholarships for medical students.

Since the use of animals is an invaluable part of medical research, and a bill for the strict control of such animals is before the legislature, it was urged that we write our congressmen asking for defeat of this bill.

A preceptorship program for all medical schools was discussed.

Methods of medical education for pre-medical and high school students was discussed, and the possibility of making a motion

picture dealing with the work of a medical student (how he got to medical school and his life and work while he is there) was referred to a standing committee.

A standing committee also received a resolution dealing with an International Medical Exchange Program whereby a medical student may devote one or two months as a clerk in a member hospital of International Federation of Medical Students Association (IFMSA). Membership of SAMA in IFMSA was the debatable point.

It can be seen that most every topic of medical interest was dealt with. Special panel sessions were held throughout the convention discussing such topics as:

Medical Careers — composed of students. Different programs from various schools were presented in regard to career days at Universities, High School programs, Pre-medical programs, etc.

Leadership — also composed of students. This dealt with the problem of membership in SAMA and how to bring out leadership qualities in its individual members.

Nuclear Medicine for the Modern Physician
Presiding: John W. Pennington, Vice President, Region 7

Moderator: Byron T. Eberle, M.D., Head, Radioisotope Section, Department of Clinical Research, Abbott Laboratories

Panelists: George V. LeRoy, M. D. Professor of Medicine and Associate Dean of the Division of Biological Sciences, University of Chicago

John A. Cooper, M.D., Professor of Biochemistry and Associate Dean, Northwestern University Medical School

Ervin Kaplan, M.D., Chief of Radioisotope Service, Veterans Administration Hospital, Hines, Illinois, and Clinical Associates Professor of Medicine at the University of Illinois College of Medicine

Behind Military Medicine — discussing the various programs offered by the different branches of the service.

Presiding: Charles Thuss, Jr., Vice President, Region 4

Moderator: Charles L. Leedham, M.D., Col. USA, RTD. Director of Education, Cleveland Clinic Foundation, Cleveland

Panelists: Sheldon Brownnton, M.C. Brig. Gen., USA. Executive Officer, Office of Assistant Secretary of Defense, Department of Defense, Washington, D. C.

Thomas J. Hartford, Maj. Gen., USA. Deputy Surgeon General, U. S. Army, Washington, D. C.

Frank T. Norris, M.C., USN. Head, Medical Corps Branch, Bureau of Medicine, U. S. Navy, Washington, D. C.

Henry S. Parker, Col. M.C., USA. Assistant for Planning, Office of Assistant Secretary of Defense, Department of Defense, Washington, D. C.

Larry A. Smith, Col. USAF, M.C. Director, Staffing and Education, Office of the Surgeon General, USAF, Washington, D. C.

Meet the Medical Press — concerning ethics and advertisement

Presiding: Edward G. Lufkin, Vice President, Region 5

Moderator: Morris Fishbein, M.D., Medical writer and editor

Panelists: John F. Allen, Science Editor, The San Francisco Examiner

Victor Cohn, Medical Editor, The Minneapolis Tribune

Don Dunham, Medical Writer, The Cleveland Press

Jack Pickering, Science Editor, Hearst Headline Service

Steven M. Spencer, Science Editor, The Saturday Evening Post

The above panel discussions with such top men in the various groups brought so many questions from the floor that the allotted time could have been twice as long.

The luncheons were provided by our various hosts and each had an interesting speaker:

Dr. Floyd C. Bratt, President of American Academy of General Practice gave a very good talk on their organization and what it was to be a general practitioner.

Another noon luncheon speech concerned changes in medical education and how it has progressed since 1912. Some comparison was made with Russian education.

Dr. Ernest Howard, Assistant Executive Vice President, AMA, presented his feelings on the King-Anderson Bill and the result that one can expect if such a bill passes.

It just so happened that past Vice President Nixon was staying in the hotel. We were very fortunate to hear an impromptu speech by him. He felt there should be more medical people in politics and he got the idea across quite effectively.

Our "off hours" were filled with viewing various scientific exhibits, the medical photographic salon, and 61 technical exhibits.

The winning Scientific Exhibits were developed by medical students, interns and residents. First place was "A Method of Photographing Fluorescence in Circulating Blood of the Human Retina" by Harold R. Hovontny, Larue Carter Hospital, Indianapolis. Second place dealt with "The Mechanism of Action of Some Skeletal Muscle Relaxants" by Byron L. Annis, Marion County General Hospital, Indianapolis. Third place was "The Diagnosis and Treatment of Cavernous Sinus Trombosis" by Charles Yarrington, Jr., M.D. Rochester General Hospital, Rochester, New York. All showed much work and were very impressive — as were the winning photographs in the medical photographic salon.

By visiting all 61 technical exhibits one had a chance at the numerous door prizes at the Abbott "Showboat" Party. This was a very elaborate affair with beautiful decorations, dancing and a terrific stage show.

The above are only the highlights of what happened at the convention. I found it very educational and inspiring. I want to thank you very much for the financial support given to us for the trip. I feel that it was a very worthwhile experience and I hope that South Dakota will be represented with delegates and alternate delegates in the future.

Again, I thank you.

Sincerely,
William L. Ekman
S. Dak. Delegate

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

**CHERNIACK AND CHERNIACK —
RESPIRATION IN HEALTH AND DISEASE**

Clearly explains the mechanisms by which pathological processes produce clinical findings in respiratory disease

FLUHMAN — THE CERVIX UTERI

Fully covers diagnosis, clinical manifestations, medical and surgical management

**TENNEY AND LITTLE — CLINICAL
OBSTETRICS**

Authoritative management of 24 problems which currently cause difficulty in safe delivery

SUPPLEMENTAL ROSTER

V. Brakss, M.D.	Watertown
W. C. Brinkman, M.D.	Sisseton
J. S. Burleigh, M.D.	Sioux Falls
D. E. Cameron, M.D.	Rapid City
T. Czajkowskyj, M.D.	Veblen
W. J. Hostetter, M.D.	Edgemont
W. W. Holleman, M.D.	Rapid City
J. E. Mattox, M.D.	Deadwood
R. Orgussar, M.D.	Florida
R. Phillips, M.D.	California
E. Riesberg, M.D.	Yankton
E. T. Ruud, M.D.	Rapid City
M. Sabbagh, M.D.	McLaughlin

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Sometimes one pill and a hundred words are better for a patient than no words and a thousand pills.

THIRTEENTH POST-GRADUATE ASSEMBLY IN ENDOCRINOLOGY AND METABOLISM

Under the Co-sponsorship of The Endocrine Society and The National Institutes of Health

Bethesda, Maryland
October 2-6, 1961

A comprehensive review of clinical endocrine problems and current research activity in these areas will be presented. For further information, write to: Dr. Roy Hertz, National Institutes of Health, Building 10, Bethesda 14, Maryland. The fee will be \$100.00 for physicians, with a reduction to \$30.00 for Residents and Fellows. Enrollment limited to 100.

NEWS NOTES

Headquarters building of South Dakota State Medical Association was adjudged exempt from taxes except for the portion occupied by Blue Shield. Decision was made by Attorney General at request of Minnehaha County States Attorney.

* * *

Dr. Henry O. Ruud has opened an office in Deadwood for his E.N.T. practice.

* * *

D. A. Gregory, M.D., Milbank, was operated on for a gall bladder condition at Rochester, Minnesota, early in June. He and Mrs. Gregory were on their way to Tennessee for a vacation.

* * *

Gregg M. Evans, Ph.D., for many years a member and secretary of the Board of Examiners in the Basic Sciences, has retired as a member of the Board but remains on as new executive secretary.

Death came unexpectedly to **Dr. James Clark**, 76 year old veteran Sioux Falls physician, on June 27, 1961.

Born July 12, 1884 in Deer Lake, Michigan, he was graduated from the Northwestern University School of Medicine, and was licensed to practice in South Dakota in 1908. He had practiced in Sioux Falls since 1914.

In 1959, Dr. Clark was honored as a 50-year practitioner by the South Dakota Medical Association.

Dr. Clark is survived by his wife, Edna; a daughter, Mrs. Clarence Doherty, Chicago; and two sons, James C. Jr., Hopkins, Minnesota and Charles W., Albany, Oregon.

* * *

Myron E. Fahrenwald, M.D., a native of Conde, joined the staff of the Redfield Clinic early in July. Dr. Fahrenwald recently completed his internship in Grand Rapids, Michigan.

NEWS NOTES

Dr. Paul F. Dzintars, Faith, South Dakota, has moved to Rapid City where he is associated with **Drs. Grau, Richie, Finley and Tesar**.

* * *

L. C. Smith, Ph.D., Associate Professor of Biochemistry at the State University of South Dakota Medical School, has been granted a one year leave of absence. He has accepted an appointment as a Visiting Lecturer at the University of Glasgow, Scotland, in the Department of Chemistry. Dr. Smith and his wife will sail from Montreal in the latter part of the fall.

* * *

John W. Donahoe, M.D., Sioux Falls, has been named to the State Board of Medical Examiners by Governor Gubbrud, replacing **Dr. D. L. Kegaries** of Rapid City.

* * *

A board of examiners has been named by the South Dakota Psychological Association to examine the training and experience of psychologists and issue certificates attesting to their competence.

Dr. Eugene Engen, Yankton, association president, named the following board members — **Dr. Henry Cobb**, Vermillion; **Dr. Walter McDonald**, Sioux Falls; and **Dr. Leighton Palmerton**, Rapid City.

The association believes the practice will protect the public from unqualified persons by allowing them to select psychologists whose competence has been certified by their colleagues.

The Bartron Clinic, Watertown, announces the addition of **Dr. Eberhard Heinricks** to the staff in pediatrics. **Dr. Robert A. Nelson** has left the group for practice in another state.

* * *

Excavation has started in Mitchell for a new medical clinic. The clinic is being erected for **Drs. Tobin, Tobin and Weatherill**, and is to be completed by December 1st.

* * *

Raymond Zakahi, M.D., 31 year old doctor from Hawaii, has joined the staff at the Medical Associates Clinic in Pierre.

* * *

Dr. Frank Ward Bilger, prominent retired Hot Springs physician, passed away Wednesday, June 14th in Hot Springs. Dr. Bilger was born October 10, 1883, at Harlan, Iowa. He is survived by his wife, Margaret.

* * *

Dr. Jack Berry has entered practice with **Drs. Vonberg and Gere** in Mitchell.

* * *

Dr. W. H. Fairbanks, for many years in practice in Vermillion, has opened an office in Elk Point, South Dakota.

* * *

Emmet J. Thorpe, M.D., 4903 Ridgeway Road, Knoxville 19, Tennessee, is interested in locating in South Dakota as an orthopedic surgeon.

* * *

BRONCHO- ESOPHAGOLOGY MEETING TO BE HELD

The Department of Otolaryngology, University of Illinois College of Medicine,

will conduct a postgraduate course in Laryngology and Bronchoesophagology from October 23 through November 4, 1961, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

* * *

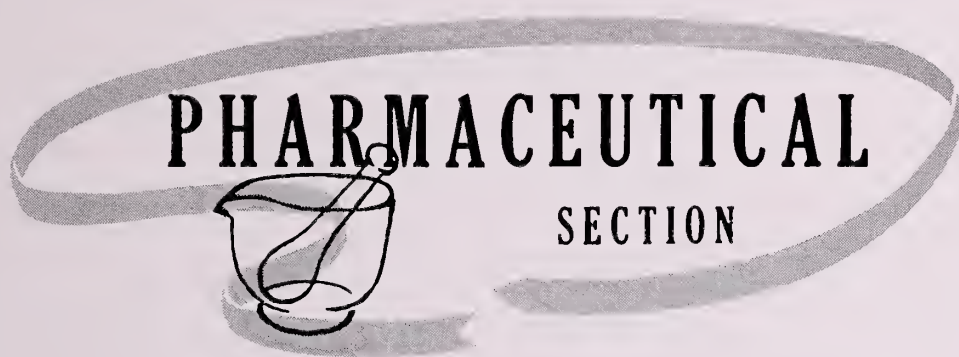
GASTROENTEROLOGISTS TO MEET IN CLEVELAND

The American College of Gastroenterology has announced that its Annual Course in Postgraduate Gastroenterology will be given at the Sheraton-Cleveland in Cleveland, Ohio, October 26 through 28, 1961.

Faculty members for the course will cover subjects involving advances in diagnosis and treatment of gastrointestinal diseases. There will be comprehensive discussions of pancreatic disease, biliary tract disease, electrolytes, peptic ulcer, etc. In addition, there will be an "X-ray Classroom" and a class in Cinegastrophotography.

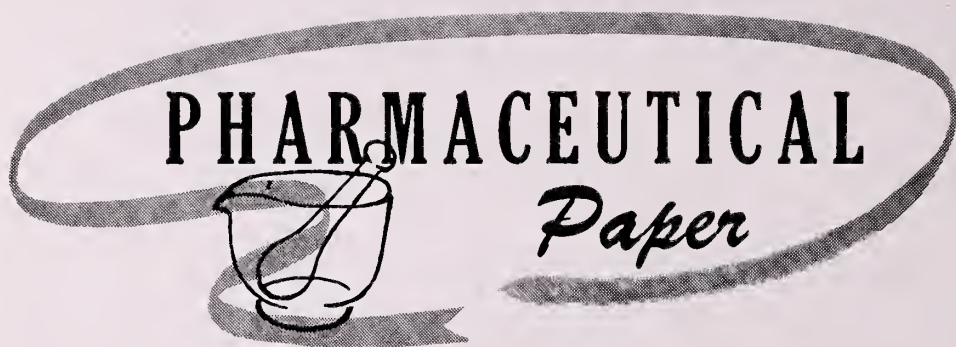
For further information and enrollment, contact the American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

AUGUST 1961



GUILFORD C. GROSS, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota



NEED AND OPPORTUNITY IN HEALTH CAREERS*

An 11-year-old Houston schoolgirl digs into a tasty banana split — her reward from a neighborhood pharmacist for a straight-A report card.

At the University of Chicago Medical Center, some 300 high school students crowd into a day-long medical careers conference, listening to nontechnical talks, lunching with members of the faculty, then breaking into small groups for demonstrations in lab research and clinical practice.

A Washington, D. C., medical school junior prepares to embark on a 10-week course of study and on-the-job training at a hospital in Haiti. His trip — and those of 33 other medical students throughout the country — is made possible by a joint program of medical educators and a pharmaceutical manufacturer.

These scenes picture individuals and organizations instilling interest in health as a career. But they represent far more than isolated cases. They are examples of the increasing efforts being made on a broad front to attract young people into the health field.

Included among the many sources of recruitment and educational support are such varied organizations as the American Foundation for Pharmaceutical Education, the largest single source of pharmaceutical undergraduate scholarships and grade fellowships; the 5,500 hospitals in which some 150,000, teen-age "candy strippers" volunteer their assistance; the Virginia Council on Health and Medical Care, a contribution-supported organization serving as a clearinghouse of health career information in the state; and the pharmaceutical manufacturing firms which each year make available hundreds of thousands of dollars to support medical and pharmaceutical education.

The need for such activities in the health field is clear. The Pharmaceutical Manufacturers Association, recognizing this, lists as part of its nine-point study program of national health challenges and how to meet them a "determination of ways P.M.A. can encourage more persons to enter every phase of the short-handed medical care field." Several weeks ago the P.M.A. fellowship award leading toward a Ph.D. degree went to a University of Florida pharmacy student, Clyde W. Whitworth.

* Reprinted in part from *Medicine at work*, May, 1961, Courtesy Pharmaceutical Manufacturers Association, Washington, D. C.

James Z. Appel, M.D., a member of the board of trustees of the American Medical Association, echoed the P.M.A.'s concern when he told the 56th Congress on Medical Education and Licensure last year that while "medicine has always demanded and has always received the upper level of mental ability among those graduating from the colleges of the nation, today engineers, scientists and educators are looking to these same top-level college students for their future leaders."

Dr. Appel points out that while a career in medicine should be made more attractive to the potential student, any recruitment program should also include methods for increasing the quality of physicians.

These two objectives — recruitment and an increase in the quality of education in health fields — are inter-related. A progressive recruitment program can attract top-level, dedicated individuals into health careers, while improved teaching techniques—affording each individual an opportunity to realize his greatest potential — can convince outstanding students that their best opportunity for fulfillment, service and satisfaction lies in the medical and related fields.

Person to Person

This relationship between skilled teaching and recruitment was put into words last year by Joan Fine, an 18-year-old Chicago high school student, who said of her summer's work as a research volunteer at Michael Reese Medical Center, "In a few weeks, I've learned more than in all the science courses I've ever taken. Now I know I want to do straight medical research."

Another 18-year-old student volunteer, Kenneth Allweiss, at first was not certain he wanted to follow in the footsteps of his physician-father. Then he spent one summer vacation in the Center's Department of Metabolic and Endocrine Research, and the following summer learning how to determine the basal metabolism of rats and assisting in surgery on dogs. "Of course," he says, "I'll be a doctor now."

Such personal contact and experience is what counts most. Almost half of the St. Louis College of Pharmacy students answering a recent poll said they selected their career after working in pharmacies. The next

largest responding group said they were influenced by friends or relatives in pharmacy. A third of 75 freshman students who enrolled last fall in premedical technology classes at the University of Minnesota reported that they first heard about this specialty from a medical technologist relative or friend. Others said their first contact came at a career day or science fair, from a high school teacher or vocational counselor, or from a hospital laboratory tour or science catalogue.

All of these sources for interesting young people in health careers are being used today. Pharmacists in Steubenville, Ohio, sponsored a science fair for high school students in their area last fall — theorizing that the personal relationship resulting from this endeavor, more than anything else, would be helpful in stimulating interest in pharmacy as a career. On a broader scale, the National Science Fair (May 10-13 in Kansas City) brought together the one in each 1,000 entrants surviving a series of local and regional health and science fairs all across the land.

The National Association for Mental Health conducted a career program during Mental Health Week (April 30-May 6). The Association has distributed a kit on medical health careers for high school counselors and is encouraging tours of mental hospitals so that teen-agers can observe the different mental health professions at work.

Georgetown Hospital in Washington, D. C., has inaugurated a summer research program to attract high school students into medical and dental careers. Twenty outstanding boys and girls are selected to participate each summer as members of research teams in basic or clinical science. Georgetown deliberately tries to choose students with no ambition to become physicians or dentists, since the program is designed to arouse such desires.

A similar program is conducted by a number of pharmaceutical manufacturers, such as Don Baxter, Inc., of Glendale, Calif., which each summer employs selected college undergraduate students to work with company research scientists. All of the student participants in this program have continued into graduate work in either chemistry or medicine.

Many pharmaceutical firms distribute attractive, easy-to-read pamphlets listing and

describing the career opportunities in pharmacy. One drug manufacturer, the Ames Company, Inc., supports the publication of *Gist*, a monthly bulletin relating careers in medical technology. Related organizations, including the Pharmaceutical Advertising Club, Inc., and the Michigan Health Council, also have published career booklets.

These efforts are paralleled in other areas of health by such organizations as the American Medical Association and the Association of American Medical Colleges, which produce and distribute booklets on medical careers. The Manufacturing Chemists' Association puts out such pamphlets as *Careers Ahead in the Chemical Industry*. One of the most complete guides to opportunities in the health field is the *Health Careers Guidebook* published by The National Health Council, an association of 72 health agencies, which lists 150 careers in health.

Accountant Through X-ray

As myriad and varied as these sources of recruitment and educational assistance are, they do not begin to anticipate the number of specialized areas within the health field in which individuals may select a career — and are in need. Many of these specialties are unknown, or only vaguely familiar, to a majority of young people. Yet they offer opportunities for fulfillment in almost every conceivable area of human endeavor.

In its introduction to a booklet entitled *Planning Your Career*, the Michigan State Medical Society points out that, in the past, little information was disseminated to introduce high school and college students to the wide range of work open to them in fields related to medicine: "Most people — if they thought of medicine at all as a career — thought of it in terms of becoming a physician, surgeon, dentist, pharmacist or nurse. They have not realized nor had the opportunity to know about the other vast opportunities within these professions."

Even today, how many high school students with musical talents and interest ordinarily consider a career as a music therapist? How many school newspaper writers select health and medical writing as their specialties? How many students fascinated with books realize that openings await them as medical librarians? How many of those interested in

the social sciences are aware of the challenges in public health or of the pressing need for medical economists?

The need exists — and is growing — for armed forces medics; industrial hygienists; X-ray technicians; medical physicists, secretaries and office consultants; non-M.D. medical educators, health educators, artists, photographers — and so on.

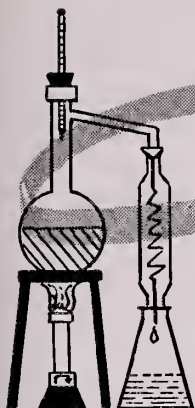
Despite the necessity for information and education about health careers, which is being supplied today in a growing volume from many sources, the health field is a major enterprise in this country. Some four million Americans devote all or part of their time to the "business" of health, and the public spends \$25 billion a year in medical fees or charges, health insurance premiums, voluntary contributions and taxes to support health projects.

All this points up the growing opportunity in the health field. Reviewing the over-all need, Dr. Leonard A. Scheele, former Surgeon General of the U. S. Public Health Service and now president of Warner-Chilcott Laboratories says:

Nowhere will you find more chance to apply scientific discoveries or to explore areas of science that are still unknown. Nowhere will you have more chance to serve the cause of humanity. Whoever you are, wherever you live, whatever you do best, the health field has a place for you.

SCHOOL OF PHARMACY RECEIVES SCHOLARSHIP GRANTS

The **Division of Pharmacy** of South Dakota State College was the recipient of a \$1000 scholarship grant from **Osco Drugs, Inc.**, Chicago, Ill. For many years the firm has given two tuition and fee scholarships to Pharmacy students of the college, but the current grant represents a substantial increase in the amount contributed. In making the grant, **Paul Stratton**, President of Osco Drug stated that the extra money need not necessarily be used for scholarships but **Dean Floyd LeBlanc** of the Division of Pharmacy, in accepting the money indicated that this would be its purpose.



Advances In Drug Research

THE RESISTANT STAPHYLOCOCCUS PROBLEM

From the ecologic point of view, staphylococci clearly rank among the more successful microparasites of man. Many of our worst microbial enemies have been put on the run — pneumococci and streptococci, gonococci and meningococci, and many of the other agents of serious infectious diseases. But not staph.

Staphylococci have been and are omnipresent. Man has lived with them in a more or less comfortable state of truce perhaps as long as anthropoids have been men. They've produced their troubles on occasion—pimples, boils, carbuncles, impetigo. But, while many other microbes have recently become less threatening, staph have become more so.

Tough strains have taken up residence in hospitals, making new headquarters right in the healing precincts themselves.

As early as 1948, barely five years after penicillin was first made available to the armed forces and the antibiotic age had been ushered in, Dr. Phyllis M. Rountree of Australia and her colleagues were publishing studies of hospital epidemics caused by antibiotic-resistant staphylococci.

It was not until 1954 that resistant staph outbreaks in American hospitals began to attract attention. Between 1954 and 1958, there were at least 500 such outbreaks. Between May, 1956, and November, 1957, 115 (of approximately 400) hospitals in California gave official recognition to the problem of hospital-acquired staph infections.

As of now, the exact magnitude of the problem is unknown. Many hospitals estimate that only between 1 and 2 per cent of patients develop staph infections. But after an 18-month study, the U. S. Veterans Administration Cooperative Committee for Hospital Infection concluded that "the frequency of significant staphylococcal infections in general medical and surgical hospitals ranged between 10 and 13 per cent."

According to some authorities, staph infections have become "the most important communicable disease of our times." A New York Times report estimates that the average patient entering a hospital today stands a 20 to 50 per cent chance of acquiring such an infection.

Staph epidemics can be most appalling when they strike, as they frequently have done, in newborn nurseries, producing impetigo, accompanied by a significant proportion of serious cases of abscesses, and even fatal septicemias and staphylococcal pneumonias. The consequences don't stop in the nursery; mastitis and breast abscesses acquired by nursing mothers from infected infants have occurred in such serious numbers that several years ago Dr. Alexander D. Langmuir of the Public Health Service noted that "this fact is considered by many to be a serious contraindication to breast feeding."

In addition to nursery depredations, hospital staph have caused serious surgical wound infections and postoperative deaths in adult patients. And debilitated nonsurgical patients, their defenses at low ebb, have picked up resistant staph infections that have

made them desperately — and too often fatally — ill. A recent study at Boston City Hospital shows that the proportion of staph-caused blood poisoning deaths has more than doubled in the last 25 years.

Nor do hospital staph infections remain confined to hospitals. Sixteen months after an outbreak of impetigo, two physicians of the University of California Medical Center in San Francisco made a follow-up study. They reported in the *New England Journal of Medicine*: "Although only 12 of the infants had contracted impetigo while in the nursery, staphylococcal disease that seemed attributable to exposure in the nursery subsequently occurred among an additional 31 infants."

The report also noted that mastitis, boils or other skin disease had developed in 16 mothers, 20 of the infants' brothers and sisters, and 10 fathers.

In another study after a series of outbreaks in newborn infants, 18 of 26 mothers were found to be infected, along with 7 husbands, and 11 of 37 siblings in the infants' families.

Evidence is increasing that resistant staph may be invading the community in large numbers. Late in 1957, Dr. F. Robert Fekety of the Epidemic Intelligence Service, Communicable Disease Center, USPHS, reported to the American Public Health Association that the strain of staphylococcus "heretofore considered a 'hospital strain' is now commonly found in the general community."

The VA Cooperative Committee for Hospital Infection also noted in a recent report: "Resistance to the usual antibiotics of staph found in infections acquired outside the hospital is approaching that of hospital-acquired infections."

Scientists of the University of Pennsylvania, the Wistar Institute and the Philadelphia Department of Health reported on an investigation of an epidemic of staph infections among students at the University's Veterinary School which had persisted for two years and spread to the students' families. No evidence could be found that the infected students had recently associated with hospitalized adults or infants. Thus, the scientists concluded, "this epidemic might represent a major infiltration of 'hospital' staphylococci into the community at large."

One provocative sidelight turned up during the vet school investigation. As expected, uninfected students were found to be harboring staph germs in their nostrils. But, unexpectedly, animals were also found to be serving as carriers. This is believed to be the first report of the isolation of staph from uninfected animals in association with outbreaks in human beings.

Efforts to Cope with the Problem

Because of the staph threat, there has been a reawakening of "aseptic conscience" in many hospitals. If it was true that a false sense of security after the advent of antibiotics led to a relaxation of the rules of antisepsis, the relaxation certainly no longer is in vogue.

Infected nurseries, sometimes whole buildings, have been closed temporarily. Infectious patients have been isolated and their laundry has been given separate handling. Some hospitals have set aside a special operating room for infectious patients.

Housekeeping rules have become increasingly stringent. Wound-dressing procedures have been tightened. In some hospitals, every nurse is required to sponge her hands with alcohol before and after treating an infected patient. In some, even though it's rough on surgeon's hands, scrubbing time has been more than tripled — from three minutes to ten.

Vigilance committees have been organized to check into every case of medical and surgical infection. As of July 1, 1960, every accredited hospital has been required to have an Infections Committee.

A few hospitals have been pioneering with special programs. At Duke University, all surgery is performed under ultraviolet radiation which is deadly to bacteria. At Los Angeles' Mount Sinai Hospital, ultraviolet chambers have been attached to the air conditioning system. At the Culpeper (Va.) Hospital, long-lasting germicides are mixed in paints, floor waxes and window-cleaning solutions, added to laundry rinse water, used in cleaning floors, sprayed on walls and furniture.

The problem of preventing staph infections is highly complicated. What complicates it, notes Dr. Maxwell Finland of Harvard Medical School, is "the ubiquity of the organism in man and his environment, the multiplicity

of ways it can spread and disseminate (patients, carriers, fomites, air, droplets, etc.), the hardy nature of the organism, and most important, the lack of precise information about many aspects of staphylococcal infections and how to cope with them."

Dr. Finland adds: "The introduction of barrier nursing for all patients with every type of staphylococcal infection including those who are only carriers, would be a valuable aid, but this is hardly feasible even in the most heavily staffed hospitals. Even a minor approach to this method of attack would scarcely be possible in the great majority of hospitals in this country; they are already plagued by a great scarcity of nursing and attending personnel, and costs are already reaching a point where hospitals can hardly afford increases in their staff if it were possible to enlist more people for that purpose. The recognition and elimination of carriers, particularly the so-called dangerous carriers, though occasionally successful at least temporarily, again is a difficult problem in the state of our knowledge because of the large number of people involved, nearly all of whom are essential in the conduct of everyday activities of the hospital."

From the therapeutic point of view, the situation has not been altogether gloomy and hopeless, but it has been far from happy. Various antibiotics — and combinations of antibiotics — have been employed with some, if hardly an adequate, degree of success. Staph hasn't invariably resisted every therapeutic effort. But the proportion of staph strains resistant to each drug or combination varies from community to community and even from hospital to hospital, with the variation ranging from as little as 10 or 20 per cent to as much as 90 per cent resistance. And some of the drugs produce serious untoward effects on occasion — renal damage, ototoxicity, blood changes, etc.

Mortality has been high from certain types of staph infections — those accompanied by staph septicemia, endocarditis, pneumonia or meningitis. Among the pneumonias, those occurring in infancy and those complicating influenza have been particularly deadly.

The need for some new therapeutic agent — one with a high specificity of action against resistant staph and with a high margin of safety for the patient — has been acute.

Until the synthetic breakthrough, the idea that such a drug could be found in a penicillin would have seemed most fanciful.

The Synthetic Breakthrough

"Nature," Dr. John C. Sheehan of M.I.T. has remarked, "designed the penicillin molecule to teach organic chemists a little humility."

Although produced readily enough by one of the more common molds in nature, penicillin has a molecular structure so complex that, for nearly fifteen years after the drug's discovery, it eluded identification.

Attempts at synthesis — carried on intensively throughout World War II by a joint British-American penicillin synthesis project — failed. They failed so completely that putting together the molecule came to seem like an impossibility; and concentrated attempts to do so were abandoned. Except by John Sheehan.

It was Sheehan who, working on his own for two years, then with the support of Bristol Laboratories, plowed on and finally managed in 1950 to achieve a synthetic penicillin. Unfortunately, it was biologically inactive. Seven years later, he constructed an active one. This time the steps involved were too many and complex for commercial production.

But in his work Sheehan had made some significant discoveries. He had found techniques for synthesizing new variants of penicillin. They were complicated and costly. But a dozen or so new variants were turned out — and among even that first dozen, one showed some effectiveness against a staph strain resistant to natural penicillin.

Sheehan also discovered that the key to the ready synthesis of an unlimited number of new penicillins was 6-APA (6-aminopenicillanic acid). The problem was that this intermediate, the core of penicillin, was difficult to produce by synthesis. In trying to get around the problem, Sheehan had resorted to back tracking — to converting natural penicillin G into 6-APA.

And it was just at this point that British researchers contributed a happy discovery. During the fermentation process, they found, the obliging mold not only makes penicillin; it first makes 6-APA. You could find a fair

amount of the intermediate in the broth along with penicillin. And in January, 1959 the British scientists reported that they had been successful in stopping the fermentation process immediately after formation of 6-APA and had been able to extract it by ion exchange.

Now, it seemed possible on a practical basis to turn out numerous varieties of penicillin.

In March, 1959, the British medical journal, *Lancet*, noted with an enthusiasm shared by many chemists and physicians that the consequences could be "far-reaching." *Lancet*, foresaw in particular, that "new approaches to the problems of resistant staphylococcus should now be feasible."

That same month scientists began working to make new penicillins. By October, 1959, some 500 new penicillin variants had been produced, more than 60 had shown enough virtue to warrant preliminary clinical trials, and one, Syncillin (alpha phenoxyethyl penicillin, Bristol), was at the stage where it could be made available for general use.

Syncillin had distinctive qualities as a potent oral penicillin. It even had greater activity than penicillin G against some strains of staph in the test tube. But it was hardly the badly needed anti-staph antibiotic. There was room for improvement, much improvement.

Crux of the Problem

Resistant strains of staph are resistant because they produce an enzyme, penicillinase, that destroys penicillin.

In October, 1959, at a symposium devoted to reports on Syncillin in particular and the whole new area of synthetic penicillins in general, Dr. Ernst B. Chain, Nobel prize winner and an early pioneer in penicillin development in the 40's, declared:

"Clinically, the real crux of the staph problem is penicillinase, not acquired tolerance of mutant strains, as many have assumed. The penicillin-resistant staph posing a dilemma for the physician are strains that can — and always could — produce penicillinase. They can therefore destroy penicillin before it can attack them. In fact, with some of these organisms, the more penicillin they are exposed to, the more penicillinase they produce.

"In this respect, such staph are quite distinct from the organisms that acquire tolerance. Our in vitro studies showed that mu-

tants which acquire resistance to penicillin do so only temporarily. Once they cease to be challenged by the antibiotic, they revert to the original penicillin-sensitive strain. I have yet to see one of these organisms retain a permanent resistance."

The staph organisms involved in "resistant" hospital infections, Dr. Chain went on to emphasize, had never been sensitive to penicillin. When penicillin-sensitive bacteria are eradicated, these resistant ones take over because of their inherent ability to produce penicillinase.

What is needed, he summed up, is a penicillin that is both antibacterial and antienzymatic — that is, antipenicillinase.

The antienzymatic bactericidal penicillin turned out to be X-1497. Of the hundreds and hundreds of new penicillin variants that both British and American chemists formulated, this one — synthesized by Dr. F. P. Doyle in England — stood out as especially penicillinase-resistant.

It was not a Jack-of-all-trades. In in vitro studies, it was for example distinctly less active than Syncillin against 22 strains of anaerobes and while it showed a spectrum generally similar to that of penicillin G, higher concentrations were needed to inhibit sensitive organisms.

But against resistant staph X-1497 put on an exciting performance. All strains proved to be uniformly sensitive to the new penicillin regardless of how much resistance they had to penicillin G.

At the Batavia, N. Y. Veterans Administration Hospital, when a sampling of staph collected from various sections of the country was tested against X-1497 and older penicillins, many showed marked resistance against the latter but no strain tested exhibited any resistance to X-1497.

At the State University of Iowa, the new drug was highly effective in vitro against consecutively isolated penicillin G-resistant hospital strains from patients with active infections.

In animal tests, using resistant staph aureus strains, when extremely high doses of penicillin G did no good, X-1497 cured the infections readily.

In rabbit experiments at Baylor University College of Medicine, abscesses were produced

by subcutaneous injection of human blood containing staph, including strains resistant to penicillin G. Immediately after the blood injection, some animals got a single X-1497 injection. Five days later, all were sacrificed and residual infection compared both morphologically and culturally, with infection in untreated controls. The results clearly showed X-1497 to be effective against the resistant staph strains inoculated.

In pharmacological and toxicological studies, the new compound proved to be practically devoid of irritant liability, being less painful than penicillin G when injected. In lab animals, no cardiovascular or autonomic effects could be seen even with intravenous doses of up to 100 milligrams per kilogram of body weight. Dogs tolerated daily intramuscular shots as high as 500 milligrams per kilogram for 6½ weeks. Rats maintained normal growth rates while getting 200 mg./kg. daily for 12 weeks.

Absorption studies in healthy, adult human volunteers at Syracuse University showed excellent serum levels following injection. Concentrations lethal to staph could be readily obtained. And single and multiple injections were well tolerated.

All of this data indicated that clinical trials were in order.

And in the clinical trials, the drug lived up to expectations.

Nearly 90 per cent of patients with resistant staph infections either have been completely cured or considerably improved by X-1497. Among the diseases treated have been septicemia, endocarditis, osteomyelitis, respiratory and soft tissue infections.

Examples of these infections are included in a clinical test conducted by a group headed by Dr. William L. Hewitt of the University of California at Los Angeles. "Dramatic" results, were reported by Dr. Hewitt in three cases of endocarditis, two of which were caused by streptococcus viridans and one by staph aureus.

This same group had six acute pulmonary infections, in five of which staph aureus was the cause with diplococcus pneumoniae responsible in the sixth case. In all, Dr. Hewitt reports, "excellent clinical and bacteriological responses."

Seven of the 43 patients had staph aureus-caused bacteriuria. In all, administration of X-1497 produced staph-free urine during and after treatment, and bacteremia was controlled in one instance in which it accompanied acute pyelonephritis.

Eight of eleven cases of osteomyelitis were, Dr. Hewitt says, "cured" by the drug. One patient relapsed. One died after five days treatment, and one required amputation.

The U.C.L.A. group also had thirteen soft-tissue infections which were successfully treated with the new drug, confirming results obtained by Dr. Alexander M. Rutenberg and others of Beth Israel Hospital, Boston, who have reported its use successfully on thirty-five post-operative infections, soft-tissue infections, respiratory, and gastrointestinal-tract infections.

At University Hospitals, Iowa City, among patients with resistant staph cured by X-1497 have been a 39-year-old woman and a 33-year-old woman, both with subacute bacterial endocarditis; a 72-year-old man with a leg ulcer; a 56-year-old woman with an infected graft; a 19-year-old girl with a septic hip; a 24-year-old woman with a thigh abscess.

In the clinical trials, X-1497 has been safe as well as effective.

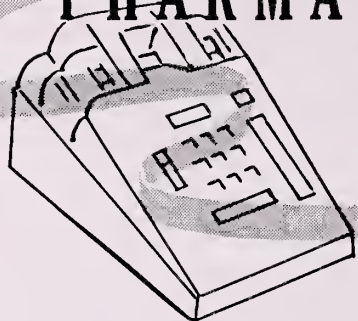
Under the descriptive name of Staphcillin, X-1497 has become widely available to the medical profession.

It is expected that the older penicillins will remain the treatment of choice for the ordinary "sensitive" staph infections.

Staphcillin represents a breakthrough into the resistant area where adequate therapy has been lacking. It promises to be a major step toward bringing the staphylococcus more completely under the control of man.

And beyond its contribution to solving that urgent, immediate problem, its very development goes far to support the conviction of many scientists that the ability to synthesize modified penicillins means an entirely new era of antibiotic therapy. It may mean that ahead are penicillins with potentials of healing far beyond the range of current antibiotics — some tailor-made to combat more effectively specific, serious bacterial disease problems.

PHARMACEUTICAL ECONOMICS



Substitutes, Equivalents And You*

by

Newell Stewart**

New York, N. Y.

The decade of the superb and soaring sixties was ushered in with much pomp and ceremony by those who would have us believe that the millennium or the golden age of our existence was already on the threshold. No more would disease or hunger or poverty thrust their tentacles into our lives. The decade would put an end to the despair and hopelessness of the millions and millions of underprivileged who occupy their unwanted niche in this world. Mankind would rise above exigencies that have always surrounded his existence and break into the sunlight of a new and better life. Yes, the predictions of so-called experts in every field of endeavor led us to believe that our worries would all be negated during the decade of the fabulous sixties that we were about to enter.

But with more than the first year of that decade now actually written in the histories of the world, what has happened? I do not want to dwell on the unemployment, the recession, the gold shortage, the little wars, the advance of Communism or the host of other

problems that are being considered by many knowledgeable men throughout the world.

What I do want to discuss with you is the insidious advances that have been instigated against the allied groups who have been so busy furnishing this country with the finest health facilities ever known to mankind that they have tended to overlook the creeping inroads being made into this vital area of our every day existence.

More particularly I want to discuss with you and point out the dangers to our own pharmaceutical practice which is such an important component of the health team.

Undoubtedly, the year 1960 will go down in history as having been a critical one for not only the pharmaceutical industry but for pharmacy in its entirety. Although the spotlight on Congressional investigation has been focused primarily on the industry, no other segment of pharmacy has yet escaped at least the perimeter of this light beam, and has had to face up to many challenges. We will undoubtedly have to continually face these and newer challenges as time goes on and developments unfold.

As a serious side reaction there have inadvertently been delivered some telling blows at one of the very fundamentals of our American health team — professional and business morality.

*A speech given at the joint meeting of the Northern and Southern New Jersey Branches of the American Pharmaceutical Association and the New Jersey Society of Hospital Pharmacists, New Brunswick, N. J., March 22, 1961.

**Executive Vice President of the National Pharmaceutical Council.

Else, why the sudden ascendancy of the mail-order pharmacy, which destroys the wholesome patient-doctor-pharmacist relationship and makes control in the interest of public safety difficult if not impossible? Else, why the promotion of indiscriminate generic-name usage and attempts to degrade brand names on the erroneous premise that all drugs with the same generic name are necessarily equivalent in quality, potency, accuracy and therapeutic performance? Else, why the beatification of the "cheap-drug" manufacturer, whose main purpose is profit, frequently with little regard to quality, purity or efficacy? Else, why the outcropping of new public health and welfare programs calling for the use of the lowest priced so-called generic equivalents for welfare patients, with little apparent heed to drug reliability or integrity of the maker? Else, why the seeming increase, of late, in the vicious and illegal practice that robs everyone and endangers public health, the manufacture and distribution of counterfeit drugs?

Can these developments be the symptoms of breakdown in the ethical, high-principled practice of pharmacy at all levels that has been so important a factor in achieving the high standards of health care of today's America? Or, have these developments been spawned by ill-considered propaganda which fails to caution that all drugs are not necessarily equivalent, but which is aimed solely at the reduction of drug prices and taken by unscrupulous practitioners as their license to deviate from sound ethical principles? Pharmacy can ill afford to sell its birthright for such a mess of pottage.

The Pharmacist's Responsibilities

Pharmacists are charged with the responsibility of providing the person who has implicit trust in their honesty, their integrity and their ability, the exact medication ordered by the physician. Pharmacists are, or at least always in the past have been, charged with the responsibility of compounding that prescription in exactly the manner prescribed and with exactly the ingredient or ingredients specified by the physician.

It has never been the prerogative of the pharmacist to make substantive changes in the physician's choice. He has not been called in as a consultant in the case and operates strictly as the expert whose knowledge is

called upon to prepare the prescription *secundum artem*. He should never consider himself quite well enough versed in diagnosing the patient's disease to permit him to go counter to the physician and furnish a drug of his choice rather than the drug selected by the physician.

I was impressed the other day when I re-read the Certificate of Incorporation of the American Pharmaceutical Association recorded February 21, 1888 and signed by the great names of pharmacy of that day. Four objectives were outlined in the Certificate and I want to quote from the third "The objects and business of said Association are as follows: (a) To improve and regulate the drug market by preventing the importation of inferior, adulterated or deteriorated drugs, and by detecting and exposing home adulterations." Unquote. I will skip sub-heads (b), (c), (d), (e) and (f) and quote from subhead (g) "To create and maintain a standard of professional honesty equal to the amount of our professional knowledge, with a view to the highest good and the greatest protection to the public." Unquote.

I believe these statements are just as applicable today as they were when they were filed in 1888. Most of us have attempted to use honesty, integrity and ability as the guide of our professional activities. However, there have always been the few who have attempted to place the monetary considerations ahead of the professional in order to accumulate more worldly possessions.

Certainly, I have no quarrel with this except when substitute congeners are dispensed. We have noted the progress of this activity growing by leaps and bounds during the decade of the fifties and the past year has witnessed an even stronger trend in the direction of questionable pharmaceutical practice. I do not intend to assess particular blame on any segment of pharmacy for the growth of this insidious practice of substituting so-called generic equivalent drugs for those desired by the physician. However, I do want to say that we as pharmacists have all been somewhat slow to recognize the course that this type of procedure might lead us toward.

Many of you will remember the period when some of our colleagues were asking physicians to write A.R.B. (any reliable

brand) on their prescriptions ostensibly to allow the pharmacist to use his own judgment in the selection of the drug to be dispensed. This, of course, would tend to degenerate into any old brand and pharmaceutical associations throughout the country were quick to recognize the dangers that might be associated with it. Subsequently resolutions were passed by practically every state and national association.

Hospital Pharmacies

Also in the decade of the 1950's we have witnessed the tremendous growth of hospital facilities throughout the country, aided by federal financing through the use of federal Hill-Burton hospital construction funds. Today the American Hospital Association lists more than seven thousand hospitals in the country. Somewhat less than fifty percent of these hospitals have pharmacies. The others operate drug rooms without the service of a pharmacist.

In addition to the hospitals listed by the A.H.A. there is an ever-increasing number of small clinic facilities and rest homes. Unfortunately the need of a pharmacy has not been recognized in many of these hospitals and institutions treating the sick and injured, and I consider this to be one of the problems that we as pharmacists have failed to correct.

When medication, whether on prescription or otherwise, is dispensed, we should not depend upon the reliability of any dispenser if he has not been licensed by his state to practice the profession of pharmacy. It is high time that we express our views on this matter to those who represent us in positions of authority. The hour is much later than many of us realize.

Pharmacies that are operated in hospitals are, for the most part, staffed with dedicated pharmacists who have been and continue to strive to achieve professional recognition. They have succeeded to a remarkable degree and that recognition has also helped their colleagues in the community pharmacies. Many of these community pharmacists serve the hospitals in their towns as pharmacy consultants and on hospital boards.

However, in the zeal of those pharmacists working in hospitals, to bring the practice of their profession to the attention of others in the health professions there has, inadvert-

antly I know, been foisted upon the profession as a whole one of the problems which faces us today. In order to bring about the economic betterment of the hospital there has been a continued trend toward the use of generic names on prescriptions. From this to the dispensing of many so-called generic equivalents has only been a short step. This type of dispensing or rather substituting the so-called congener for the designated brand has purportedly been done with the sanction of the physician who must agree to it when he signs the by-laws of the hospital.

This practice has also been found to be rather lucrative for other groups such as welfare agencies, mail order dispensaries, clinics, etc. with the consequent harmful effects on the whole practice of pharmacy. And one of the results we have witnessed from this practice is the mushrooming of manufacturers, inadequately equipped not only in facilities for proper production but also in the ethical precepts and reliability with which our industry has progressed in the past. Price has become the consideration of many of these operators and seemingly this has become the guideline even of governmental agencies some of whose spokesmen are presently so active in promoting the substitution of so-called equivalents.

Welfare Programs

In an article appearing in the January 1961 issue of *California Pharmacy*, the publisher Mr. James W. Gentry wrote and I quote:

"A covinous government policy that threatens the health of every welfare recipient is spreading throughout America. It deals in cheap questionable medical practice and tragedy — tragedy for the indigent and aged. If permitted to expand, the savings to the taxpayer may be a few thousand dollars — and the death of hundreds of men, women and children on state welfare programs."

At the October 1960 meeting of the American Public Welfare Association, in a talk entitled "Your Business and My Business is Everybody's Business," Mr. Sam Grais, a Director of that Association and Chairman of the National Conference of Public Welfare Board Members and also a past president of the Minnesota Pharmaceutical Association, stated, and I quote:

"A problem has come up recently which is of great concern to me as a practicing pharmacist, as a Board member, and to you as social workers who are vitally concerned with the type of medical care that the recipients of welfare programs receive. This is the question of brand names vs. generic equivalents.

"If we agree that welfare patients deserve the same level of health services as other more fortunate citizens, the question that must be answered is simply this: Can we be sure that generic equivalents will be as uniformly pure, safe and potent as brand name drugs?

"All of our citizens, whether they are classified as aging, indigent, disabled or otherwise deserving of public assistance have the right to the same high level of medical care now enjoyed by more fortunate citizens. Welfare patients should not be relegated to the rank of second-class citizens.

"The preponderance of medical and pharmaceutical opinion is in favor of the established brand-name system which provides the maximum guarantee of safety and efficacy. If this opinion is ignored — if we insist upon the use of generic equivalents before all the evidence is in — then we are taking advantage of their dependent position by asking them to accept a lower level of health service, because they cannot afford the same service as their more fortunate neighbors."

Generic vs Brand Names

Speaking on the Town Hall program at the American Pharmaceutical Association meeting last August, Dr. Louis M. Orr, immediate past president of the American Medical Association discussed the advantages to the physician of brand name drugs and the many inherent disadvantages of the so-called generic equivalent drugs. Dr. Orr said of brand name drugs and I quote:

"For me as a physician, there is in brand-name products quick, easy identification. There is convenience for the physician and the pharmacist. There is quality and reliability of the product because it is backed by the integrity of the manufacturer. There is exactness of ingredients and of action. There is, above all, uniform

therapeutic value. In brand names I have found all these important qualities. I expect to continue to find them. And consequently, I expect to continue to prescribe most of the drugs for my patients by brand name."

Dr. Orr emphatically voiced his opinion of the so-called generic equivalent drugs as follows and I quote:

"How is the physician to tell whether the so-called 'generic equivalent' is, indeed, equivalent?

"Unfortunately, too many cases have occurred in which generic medicines have been proved sadly inferior to products backed by the name of a reputable manufacturer.

"One of the great dangers that can arise from prescribing by generic term is the liability of both physician and pharmacist. Generic equivalents, in my opinion, could increase the chances of unfavorable reactions to the detriment of the patient.

"For me there is so much in a name that at the present time I cannot abandon my right and my duty to choose the best brand name drug for my patients. And I do not intend to gamble on generic usage when I know of a specific drug my patient should have."

Dr. Perrin H. Long, one of the outstanding medical educators and consultants in the nation who is presently with the University of New York College of Medicine and also Kings County Hospital Center, in an editorial appearing in the February 1961 issue of *Medical Times and Resident Physician* stated and I quote:

"I myself have always favored brand names because the brand name informs me about the maker of the product. A physician must be permitted to discriminate between products which he uses. With a thousand and one things claiming his attention, he should not have to run down to see or call up the pharmacist every time he prescribes, in order to know which company's product is being used to fill his prescription. Were only generic names used I feel certain that one would see a rise in counterfeiting drugs by unscrupulous individuals, and the substitution of counterfeit drugs by dis-

honest vendors in the prescription business. Almost all counterfeiters deliver generic-named drugs.

"Brand names reflect the honor and integrity of the manufacturer of the product.

"Without patents or brand names, I am certain the doctor will be receiving inferior products at times. The brand name is today a major protection to both the patient and doctor."

In an editorial commenting on a resolution relative to the use of generic names on prescriptions passed by the Medical Society of the County of New York, their official publication, **New York Medicine**, in the March 5, 1961 issue said and I quote:

"Of the complexities of the problem it is significant that many druggists who used to praise generic prescribing as a swift way to lower the costs of drugs to the patient (because they could cut down their overhead of stocking of multiple brand names) have now taken a second look. These druggists have looked into their legal liabilities for it is the druggist who picks the bottle off the shelf and fills the generic prescription. It is the druggist who thereby accepts the professional responsibility for the quality of the drug. Since few pharmacies, outside of hospitals perhaps, have any equipment (or time) to make such tests one can see the dilemma of the local pharmacist. Thus the Society's resolution seeks most laudable goals but it creates problems too."

At the National Pharmaceutical Council we have assembled numerous opinions from medical, pharmaceutical and legal authorities deploring use of these so-called generic equivalent drugs rather than brand name drugs. I have referred to only three or four of these opinions. A fair question for each of you to ask yourselves is, "Will the procedure recommended by advocates of so-called generic equivalent drugs lead us into an era of newer and better drug discovery or will it set us back or, at best, continue us in the status quo in the treatment of disease? Research and discovery are expensive — informative services and adequate distribution are expensive. Certainly the 'copy houses' do not contribute to these activities."

Some interesting statistics were presented to Senator Kefauver's Subcommittee last June by Commissioner George Larrick of the Food and Drug Administration. He said that of the approximately 1300 drug manufacturers in the country 28 accounted for 87% of all ethical sales. The other more than 1200 firms combined had the remaining 13%.

Mr. Larrick stated that during the past 10 years the FDA had examined 8,376 samples from the 28 firms mentioned and found only 4 violations based on composition — less than 1/20th of 1%. From the remaining more than 1,200 firms some 8,621 samples were tested resulting in 484 legal actions against 235 different firms — nearly 6%.

These statements seem to be evidence that the most reliable assurance of drug quality is the reputation of the producer. They further emphasize the importance of specifying the source of drugs as was so well attested to in the statements I read to you from Dr. Orr, Dr. Long and Mr. Grais.

Some 70 years ago John Ruskin said "The common law of business balance prohibits paying a little and getting a lot. It can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better." It's still that way today.

Let us be certain of this fact — no so-called generic equivalent manufacturer, past or present, has ever pioneered a new product or improved an existent one. For the most part they ride the coattails, travel the well blazed paths of makers' brands. If one day, it should become unprofitable to manufacture brand merchandise, on that day the coattails on which all so-called generic equivalents have traveled will be severed. This disaster would be as great to the so-called generic equivalent producers as it would be to the brand manufacturers, and the principal victims would be the people who would fail to have that new or better drug available at the critical time it is needed.

Your old years haven't vanished. They still live. The present is simply your old years rolled up for action. The day before yesterday always has been a glamor day even though the present may be prosaic. However, let us re-

member that somewhere in the darkness of tonight, tomorrow is being developed. The more extensive our knowledge of what has been done, the greater our power of knowing what to do.

Pharmacy has been good to all of us and it is my fervent hope that everyone who practices this profession will recognize some of the dangers facing it today and, to the best of his ability, endeavor to cope with them. The real evil in the world is not the spectacular, the occasional, the vividly catastrophic. The real evil lies in our indifference to conditions and our unwillingness to devote the effort to overcome them. Let us as pharmacists strive to make the exemplars of our past the paragons of our future.

NEW DRUG HOUSE ANNOUNCED

The recent American Medical Association Meeting in New York was the scene of the introduction of Philips Roxane, Inc. to the American pharmaceutical industry. Its presentation was made in a setting of a Dutch garden, symbolic of its origin.

Philips Roxane rises out of a vast network of technological operations here and abroad from which its extensive plans for pharmaceutical research and development have been drawn.

They have just erected a new 62,000 square foot plant at their headquarters location in St. Joseph, Missouri. Among their present pharmaceutical projects is the development of a measles vaccine, now in extensive clinical trial, for which patent applications have been filed. They have also initiated clinical testing of a promising new progestational agent with which they hope to open a new phase in steroid chemistry.

The company has acquired several American affiliates. Among these are the Columbus Pharmacal Company of Columbus, Ohio, which will form the nucleus for marketing in the new organization; the Anchor Serum Company of St. Joseph, Missouri, which will bring to the new operation specially developed skills and long experience in biological research and production; and the Thompson-Hayward Chemical Company of Kansas City, Missouri, a leading formulator and supplier of chemicals used in feed supplements, in industry and agriculture.

FACTS OF INTEREST TO DRUGGISTS

In the year 1929, American pharmacists filled 166,000,000 doctors' prescriptions . . . Today, 32 years later, the figure is approximately half a billion prescriptions filled each year.



DRUGGISTS MUTUAL

INSURANCE COMPANY

HOME OFFICE

ALGONA, IOWA

In 1909, the year of its founding, Druggists Mutual served but one state . . . Today, the insurance needs of druggists in 10 middle western states are served by Druggists Mutual.

SEN. KEFAUVER DRAWS UP A SWEEPING DRUG BILL

Termed toughest ever put before Congress, proposal hits at ads, patents and licenses and would add power to FDA.

Ever since the end of last year's session, Sen. Estes Kefauver and his Antitrust and Monopoly Subcommittee attorneys have been redrafting an omnibus bill with three ideas in mind:

- To tighten up antitrust laws as they apply to prescription drug companies.
- To make licensing of patented drugs mandatory.
- To give the Food and Drug Administration greater authority to police drug manufacturing and advertising.

Kefauver's bill, the toughest of any drug regulation bill ever offered Congress, is now in the Senate hopper. And Kefauver has prevailed on chairman Emanuel Celler of the House Judiciary Committee to introduce an identical bill in the House.

The Kefauver-Celler proposals will have a number of effects on the practice of medicine. Among the chief recommendations:

Doctors are to be furnished, by manufacturers, with "clearer, better and additional information on the bad as well as the good features of drugs." All promotional information sent by mail to physicians, dentists or veterinarians will have to include full, official brochure data, unless the promotional material avoids mention of either dosages or intended use.

Furthermore, the Secretary of the Department of Health, Education and Welfare would have to make annual mailings of brochure information on dangerous drugs to all physicians.

Kefauver also calls for simplifying generic names and reducing the number of patented drugs.

During the hearings, Kefauver and some of the subcommittee witnesses argued not only that many generic or official names are

needlessly complicated, but that the industry manages to keep them so to discourage doctors from prescribing them.

To reduce the number of new patented drugs, the bill would prohibit the issuance of patents on drugs that are a combination of two or more drugs already in existence (whether patented or not) or any drug that is merely a molecular or other modification of an existing drug. Such a drug, however, would be eligible if the HEW Secretary determined that it is a "significant" improvement, therapeutically.

FDA would also have fuller and more comprehensive authority to inspect drug manufacturing plants, including access to complaint files to see what adverse reactions were appearing, and to personnel files to determine if employees are properly trained to carry out their responsibilities. Each plant would be licensed by the HEW Secretary. To be granted a license, the applicant would have to prove that his establishment "meets such standards as the Secretary shall determine necessary to insure the continued chemical structure, strength, quality, purity, safety and efficacy of the drug." The license would be revoked if the plant fell below the set standards.

Industry spokesmen maintain that it will be especially costly for many small producers of generic name products, including good and bad plants, to meet the minimum factory standards. The result: many will go out of business — and the big manufacturers will be the benefactors.

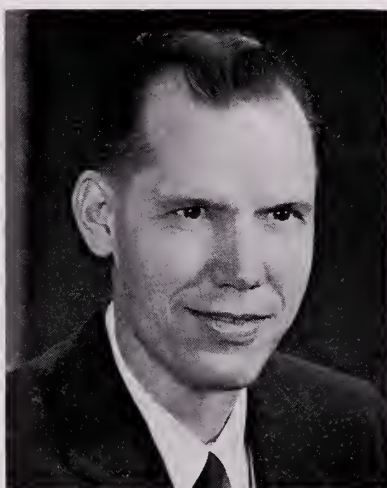
But the two Kefauver recommendations which will be opposed most forcefully by industry concern the question of patent rights.

The first calls for amending the antitrust laws so that it would be unlawful for "large drug companies to agree upon which [company] will obtain a patent or to agree which shall be awarded licenses in the event a patent is issued."

The second recommendation would set a three-year limit on drug patents but not disturb the 17-year-period patents now held in other fields. Thus a drug manufacturer could only control the product for three years, after which he would have to grant licenses to "any qualified producer" at a royalty of no more than eight per cent.

PRESIDENT'S PAGE

Rx

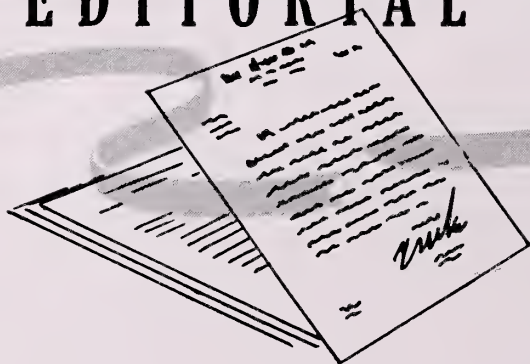


Greetings. I would like to say "thank you" for the great honor you have bestowed upon me, and the trust you have shown me by making me President of the South Dakota Pharmaceutical Association for the next year.

Now that the excitement of the annual convention is past and I am back to the normal routine, the magnitude of the honor and trust is becoming very apparent to me. When I review the accomplishments of my predecessors, I find myself standing rather in awe of the task before me. I find myself concerned as to whether or not I can live up to the standards set by those that have served you before. These feelings have now crystalized into a determination to do for you, and myself, the very best job that my abilities will permit me to accomplish. I am encouraged when I review the excellent slate of officers that you have elected, and I am sure that they have the same determination that I have and will do their utmost to serve you and to make this a successful year for the South Dakota Pharmaceutical Association.

Sincerely,
Philip Case

EDITORIAL PAGE



DEFEND THE PROFESSION

If any pharmacist in the country still doubts whether he would be individually affected by the Justice Department antitrust actions, he need look no further than the argument put forth by the Government attorneys in San Francisco Federal District Court on June 22. Government attorney Lyle Jones argued before Judge Louis E. Goodman that the Northern California Pharmaceutical Association should be fined the maximum \$50,000 so that every one of the 1500 members would have to pay enough for them to feel the extent of the fine. Judge Goodman then pronounced sentence in the amount of \$40,000.

Donald K. Hedgpeth received a \$1,000 fine without any jail sentence, despite the fact that Jones argued for a \$5,000 fine and a 30-day jail sentence.

Prior to the pronouncement of sentences, defense counsel John W. Broad and Michael M. Khourie argued for motions to set aside the verdict, for a new trial and for arrest of judgment, all of which were denied by Judge Goodman.

APhA Secretary, William S. Apple, noted that "the Government is subjecting pharmacy

to penalties which are eight times those imposed on the largest industrial corporations who have been charged with violations of the Sherman Antitrust Act. This is a gross miscarriage of justice when it is realized that the fines were imposed for doing nothing more than creating, printing and distributing traditional prescription fee schedules."

During the course of the trial Judge Goodman publicly stated that "there is an immunization under the statute (Sherman Act) for professional services . . . (and) if what these pharmacists do is entirely a matter of professional service, why I think the Court should keep their hands off of it, but I don't think that any experts would convince me that this is a professional service . . . a prescription is only a piece of paper . . . that requires no more professional service from the druggist than putting it in the package and delivering it."

The Northern California "test case" will now be appealed, but this calls for the support of every pharmacist in the land. Those pharmacists who have not yet responded to the call to Defend the Profession must do so now. Send all checks to Defend the Profession, P. O. Box 1921, Washington 13, D. C.

PHARMACY *News*

ONE HUNDRED EIGHTY REGISTER FOR 75th CONVENTION

South Dakota Pharmacists assembled in Rapid City, June 18-20 for the 75th convention of the state Association. Meeting in conjunction with the pharmacists were the Ladies Auxiliary and Allied Drug Travelers Associations. Headquarters for the meetings was in the Sheraton-Johnson hotel. President Albert H. Zarecky presided over the three day program of business, sports and entertainment. The convention program opened Sunday with sports on the agenda, which was followed by the traditional Allied Travelers' party Sunday evening. Business meetings began on Monday and conventioners heard addresses from Association officers, and representatives of allied professions, schools and industry as well as reports of various committees. The annual Association banquet and dance was held Monday evening in the Sheraton-Johnson ballroom with 232 in attendance. The convention program concluded with the closed business session on Tuesday morning.

Officers Elected

Association officers for the ensuing year were elected at the final business meeting on Tuesday morning. Named

were: **Philip Case**, Parker, president; **L. B. Urton**, Sturgis, 1st vice-president; **Wayne Shanholtz**, Mitchell, 2nd vice-president; **Melvin Holm**, Redfield, 3rd vice-president; **Mrs. Nina Lund**, Rapid City, 4th vice-president and **Chan Shirley**, Brookings, treasurer.

Recommended to the Governor for a 3 year term on the Board of Pharmacy were: **Roger Eastman**, Platte; **Lloyd Wagner**, Marion; and **Murray Widdis, Sr.**, Sioux Falls.

Awards Given

A number of Association members were cited during the convention proceedings for their outstanding service to the Association and profession. Receiving the Pepsodent Company's Presidential plaque was **Albert Zarecky**, Pierre, Association president. Incoming president, **Philip Case**, Parker, was presented a president's gavel from McKesson & Robbins, Sioux City. **Mrs. Case** received a miniature gavel.

Harold Mills, Rapid City, received a plaque in recognition of his outstanding service as a past member on the Board of Pharmacy. The presentation was made by **Floyd Cornwell**, Webster, a former Board member.

Named honorary president of the Association for the coming year was **John Burke**, Mitchell. **Clark Eidsmoe**, Brookings, presented

him with a plaque and gave a citation in which he recounted the many years of service that the recipient had rendered to the Association and profession.

C. L. "Roy" Doherty, Rapid City, was the recipient of the Bowl of Hygeia award. This award is made annually by the A. H. Robins Company to an Association member who, in addition to his professional activities, has rendered outstanding community or civic service.

A Pierre student, **Keith Roberts**, was awarded a \$500 scholarship to study pharmacy at South Dakota State College. The scholarship is sponsored by Lever Brothers and was presented by Association president, **Albert Zarecky**.

Memorial Service

Memorial services were conducted in memory of Association members who had died during the preceding year. Former active members who have passed away are: **Robert Royem**, Vermillion; **Harry Dow**, Sioux Falls; **Mrs. Norma Maynes**, Aberdeen; **Kenneth Jones**, Gettysburg; **Josiah Wagner**, Conde; **George Bailey**, Winner; **Theodore Weepie**, Deadwood; **Lewis Ensteness**, Revillo; **James Wagner**, Winner; **Carl Wallbaum**, Yankton; **L. J. Kadinger**, Hartford; and **William**

Franklin, Mitchell. Former honorary members who are deceased are: **Frank Maldaner,** Sisseton; **R. F. Terpening,** Mitchell; **John E. Heisler,** Merrill, Iowa; **Fred H. Holsclaw,** O'Neill, Nebraska; **William W. Holliday,** Sioux Falls; **M. E. Crockett,** Sisseton; **Ralph L. Null,** Gresham, Oregon; and **Newell B. Kennedy,** Los Angeles, California.

The memorial service was conducted by **C. L. "Roy" Doherty** of Rapid City. Participating in the service were **Rev. Larson** of the Trinity Lutheran Church, Rapid City; **Bliss Wilson,** Pierre, and **Mrs. Willis Hodson,** Aberdeen.

1962 Convention Site Named

The Time and Place Committee selected Sioux Falls

as the site for the 1962 convention. The time is to be set by the Sioux Falls Association.

SCHOOL OF PHARMACY RECEIVES ACCREDITATION

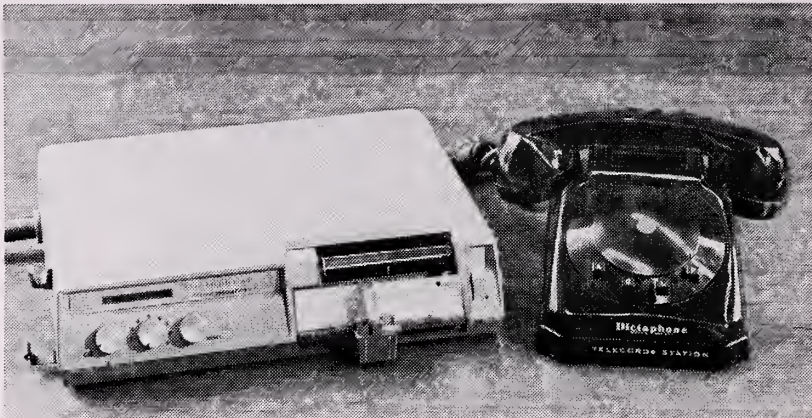
The Division of Pharmacy of South Dakota State College was again awarded a continuation of accreditation by the **American Council on Pharmaceutical Education,** the national accrediting body. The School had been inspected by Council representatives, Drs. Melvin W. Green and Joseph B. Burt, and Board of Pharmacy representative Roger Eastman on May 1-2 and the official report was released June 16. All Schools of Pharmacy in the U. S. are periodically examined by the Council,

which investigates such matters as curriculum, laboratory and library facilities, staff personnel, and financial support.

The School was highly commended by the Examiners for its condition and for the progress it has shown. Receiving special mention was the joint **Dental-Pharmacy** research program which is being carried out at the Institution and which is probably the only joint project of its kind in the nation.

Current practice of the Council is to either accredit a school or withhold accreditation. This is a deviation from past policy when schools were rated as Class "A", "B", "C", etc. in accordance with the adequacy they displayed in the various categories examined.

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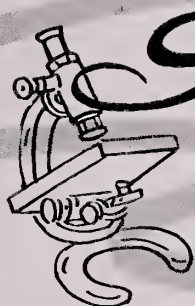


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Scientific

P A P E R

THE EFFECT OF FIBRINOLYSIN ON THE COAGULATION MECHANISM

S. Gollub, Ph.D., M.D., Hahnemann
Medical College and Hospital,
Philadelphia, Pennsylvania

In this presentation, we wish to detail the causes, sites of action and clinical consequences of a physiological mechanism grown to pathologic proportions. We shall also indicate proper diagnosis and suggested treatment. In Fig. I may be seen a simplified version of the modern coagulation process.

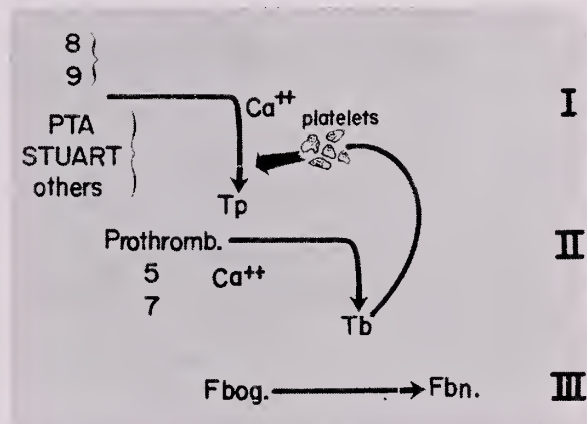


FIGURE I

The basic outline has remained unchanged for many decades. The general stages of coagulation are distinguished: the first leading to thromboplastin formation, the second leading to thrombin formation, and the third leading to fibrin formation. It will be noted that in addition to the platelet and classic antihemophilic globulin, there are at least four new proteins involved in thromboplastin formation. These are PTC or plasma thromboplastin component; Stuart factor; Hageman factor; and plasma thromboplastin antecedent. Deficiencies in coagulation due to lack of or diminution of any of these factors,

are, of course, associated with the general field of hemophiloid diseases. In the second stage, prothrombin conversion, the participation of two new factors have been established. These are: accelerator globulin and SPCA, or serum prothrombin conversion accelerator. And the third stage, of course, fibrinogen conversion, which needs only thrombin to form fibrin. These three stages of coagulation may be conveniently measured in the laboratory by a combination of tests.

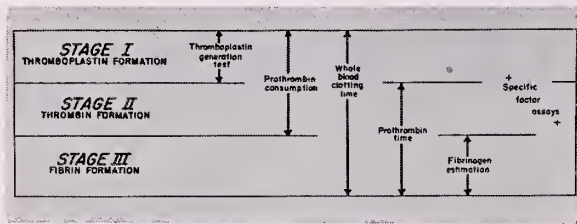


FIGURE II

Fig. II indicates what is measured by these tests. It may be seen that the entire process, phases one to three, is measured by the whole blood clotting time. The second and third phase of coagulation, that is, all but thromboplastin generation is measured by the prothrombin time, as we know it — the one-stage prothrombin time. The third stage may be simply measured by determination of the fibrinogen content. This can be conveniently done by adding thrombin to plasma. The first phase alone may be measured by a new test, the so-called thromboplastin generation test. And the first and second phase may be measured by the prothrombin consumption test. Thus, you can see that by an appropriate choice of these tests, one may narrow down the deficiency in coagulation to a particular phase. Thereafter, of course, specific factor assays can measure the protein or proteins involved.

Fibrinolysin is a proteolytic enzyme. In low concentrations its substrate is almost exclusively fibrin, as shown in Fig. III. In particular, the $\alpha_1\alpha_2$ lysine and arginine are the sites of attack. Fibrinogen depletion may occur by a process of continual reformation of clots and continual lysis of this clot. As the titer of fibrinolysin rises, however, it begins to attack the proteins of the coagulation (Fig. III) mechanism: fibrinogen, prothrombin, factor VII (SPCA), Stuart factor and others;

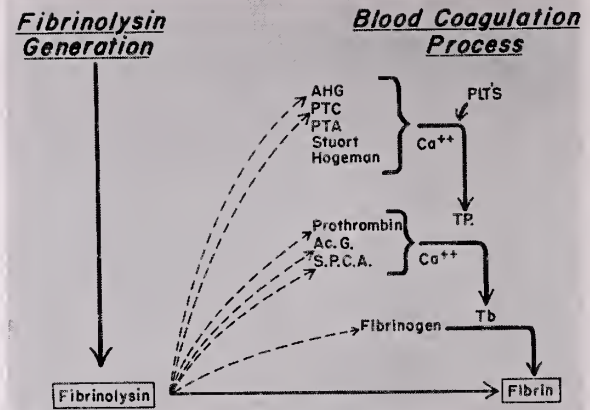


FIGURE III

thus interfering with normal hemostasis and this is reflected in the abnormal bleeding time and the like. How may such abnormal high lysin titers be caused? One way may be the administration of a lysin preparation of high kinase content to a patient with low antilysin titer. Another possible mechanism is the release of endogenous, intracellular kinase, as a consequence of surgery, trauma, necrosis or neoplasia. Usually, indeed almost always, blood loss due to fibrinolysis occurs from the site of operative or traumatic lacerations.

How may the phenomenon of fibrinolysis be diagnosed and treated? Diagnosis of fibrinolysis depends on lysis of the fibrin clot in an abnormally short interval. Afibrinogenemia or even hypofibrinogenemia is not sufficient for diagnosis. As a matter of fact, it is not even a necessary concomitant. Because of clot retraction of whole blood in the test tube, the resultant apparent liquification of clotted blood may be misleading. For this reason, a plasma clot made from a highly centrifuged plasma is preferable. At 37°C. such plasma clots do not become fully liquid for three days or more. A clinically high lysin titer, usually associated with severe clinical hemorrhage, results in lysis in less than four hours under the above conditions. A moderate clinically significant titer results in lysis between 4 and 12 hours. A weak lysin titer, nonetheless clinically abnormal, results in lysis from 12 to 24 hours. If the lysin titer is high enough, and hypo or afibrinogenemia occurs, the whole blood clotting time and the prothrombin time can be abnormal. In cases of afibrinogenemia, the demonstration of fibrinolysis by plasma clot lysis may be accomplished by mixing a normal plasma with

the patient's plasma, so that the clot may be formed from the fibrinogen of this admixed normal plasma. Treatment of fibrinolytic hemorrhage depends on shutting off the generation of lysin, neutralizing the lysin and replacing those coagulation factors destroyed by lysin. For these purposes, a new agent, epsilon amino caproic acid appears to solve the first two objectives.

Let us now examine two cases representing extreme situations where these principles are observed in fact. The first case is that of a 36 year old Negro female, para IV, gravida VI, who was admitted to a hospital accident ward in the evening in hemorrhagic shock. She had a three day history of bleeding per vaginum, becoming profuse immediately prior to admission. The patient, in the 6th month of pregnancy, passed placenta and membrane in the accident ward, but no fetus was found. It was assumed that this was a case of criminal abortion. Blood cultures were not taken. Dilatation and curettage were done to reduce profuse bleeding per vaginum, but the patient died on the operating table following the administration, within 2½ hours, of 4 units of whole blood, 1 Gm of fibrinogen, 3 units of whole blood, another 2.73 Gm of fibrinogen and 2 more units of whole blood. At post mortem examination, there was no evidence of a previous retroplacental hematoma. A para-ovarian vein hematoma, 1 cm in diameter extended from the pelvic brim to the adrenal gland. Both submucosal urethral hemorrhage and labia majora subcutaneous hemorrhage were found. Retroperitoneal ecchymosis, especially in the utero-vesicular space were present. A necrotic area 2 by 3 cm in diameter was noted in the fundus uteri. Subendocardial hematoma averaging one-half septum, and an epicardial hematoma of the left ventricle (possibly due to cardiac massage) was found. Blood was present in the trachea and in the stomach. Petechiae were present throughout the G. I. tract, with mucosal and submucosal hemorrhages and hemopericardium.

The laboratory results are shown in Fig. IV. The sample taken at 2:30 P.M. is of immediate interest. Although the patient had received 4 units of whole blood in the preceding hour, no demonstrable fibrinogen was present. Under these circumstances, the in-

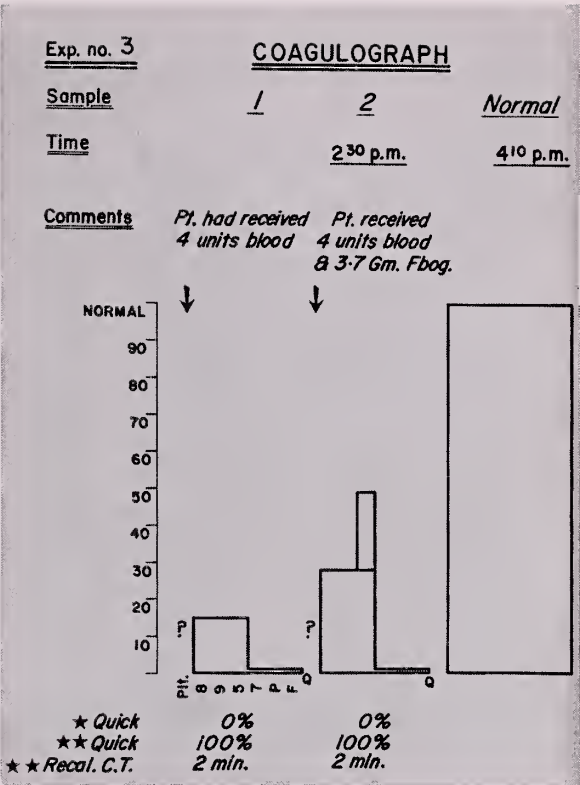


FIGURE IV

finite clotting time in the prothrombin time test is understandable. However, a specially prepared normal plasma sample, rich in prothrombin failed to correct the one-stage prothrombin time. This implies that the patient's plasma also was deficient in prothrombin, factor VII, or both. The recalcified clotting time of mixtures of normal and patient plasma was normal, indicating that no strong inhibitor or accelerator activity was present in the patient's plasma. The extremely high fibrinolytic activity of the patient's plasma was shown by the 15 minute lysis time of equal mixtures of control and patient plasmas.

The next sample, taken 100 minutes later, presents a generally similar picture. The lack of fibrinogen, the infinite clotting time of the one-stage prothrombin test, and the results with mixtures of patient's plasma and treated normal plasma are striking findings since the patient had received 3 additional units of whole blood in the interval, and 3.7 Gm of fibrinogen. The fibrinolysin in the patient's plasma was still extraordinarily high, lysing a clot of equal mixture of normal and patient's plasma in 15 to 30 minutes.

The last sample, taken by cardiac puncture

ously. For prophylactic purposes he was put on 3 Gm of epsilon amino caproic acid by mouth per day, and just before his discharge from the hospital on 8/11, the patient evidenced no hematuria, no fibrinolysin and all of his coagulation values, with the exception of factor V, were normal.

Approximately 1½ months after discharge from the hospital, the patient again began to manifest spontaneous hematuria. He had been taken off medication 3-4 weeks prior to this new manifestation (see Fig. V). On re-admission to the hospital, a high fibrinolysin titer was seen associated with macroscopic hematuria. Fibrinogen level was 40 Mg%, with the resultant decrease in one-stage prothrombin time to 25% and a long diluted blood clotting time. The patient was started on a regimen of epsilon amino caproic acid by mouth with immediate decrease in lysin titer, clearance of hematuria, and with the administration of fibrinogen, the prothrombin time rose to about 50% and diluted blood clotting time returned back toward normal. A few days subsequent the patient underwent an orchectomy in the attempted treatment of metastatic carcinoma. The operative procedure was uneventful. The patient was discharged on a dose of 4 Gm per day of epsilon amino caproic acid for 10 days. These episodes have recurred every 4-5 weeks and have been successfully treated with epsilon amino caproic acid.

These two cases represent examples of the hemorrhagic consequences of endogenously generated high fibrinolysin titers with analyses of the effect on the coagulation mechanism. The successful treatment of the condition by epsilon amino caproic acid was also detailed.

WE GOOFED! ✓

Due to an oversight on our part, F. C. Totten, M. D., of Lemmon and G. E. Van De-mark, M. D., of Sioux Falls were omitted from the list of Fifty Year Club members. To these gentlemen we extend our sincere and humble apology.


July p. 278.

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MEDICAL LIBRARY BOOKSHELF



The sixtieth annual meeting of the Medical Library Association was held in Seattle, Washington May 8-12, with Jean Ashford, Medical Librarian at the University of Washington as convention chairman.

One session of the convention was concerned with Information Storage and Retrieval in Medical Libraries. Whereas, according to one speaker, the day may come when automatic machines would deliver the materials and suggestions for finding added information which a doctor is seeking, the librarian will always be needed for the personal relationships which the machines cannot provide.

A day was spent at the Division of Health Sciences of the University of Washington. The Health Sciences Building overlooks the Portage Bay Yacht Basin between Lake Washington and Lake Union, near enough to the upper campus to offer opportunities for cooperative research with other sections of the University. It was completed in 1949 and represents an investment of more than \$20,000,000 in construction and equipment. It houses the administration units of the School of Dentistry, the Basic Health Sciences Department, and laboratories and offices of the Departments of Pediatrics and Psychiatry. The interior walls are so designed that areas within the building can easily be changed. The very attractive library which serves the 3 schools has 10 glass-paneled and sound as well as space for microfilm and microcard as well as space for microfilm and microcard readers, and special study groups.

An interesting illustrated lecture on the History of Medicine in the Pacific Northwest was given in the well designed and equipped auditorium by Dr. Willard Goff, Honorary Vice-President of the American Library Association and Chairman of the American Medical Association Historical Committee. Attractive brochures compiled and published by this Committee were distributed entitled "Milestones in the History of Medicine in the Pacific Northwest" and arranged chronologically under the headings Medicine Among the Indians; Medicine During the Early Explorers; Medicine During the Hudson's Bay Company; Missionary Period; Early Immigrant Physicians.

Dr. Goff described surgical procedures of the Medicine Man, or Shaman, including skull trephining, head flattening and sugar loaf skull. He also gave details about early doctors and explorers including Dr. John MacKay, the "first resident practicing physician in the Pacific Northwest"; Dr. John McLoughlin, Physician and Administrator of the Hudson Bay Co. at Fort Vancouver and founder of Oregon City; Dr. John Sebastian Helmcken said to be "the leading physician from San Francisco to the North Pole and from Asia to the Red River" and first president of the British Columbia Medical Association; and Dr. Marcus Witman, "First graduate of an American Medical College to cross the Rocky mountains and first to settle in the Oregon Territory." He ended by giving some details about the founding of the University of Washington School of Medicine.

The banquet speaker was Dr. Edward A. Boyden, Research Professor of Anatomy of the University of Washington and American editor of *Acta Anatomica*. His talk, illustrated by colored slides, many of which he took in London, was on the life of Sir Astley Cooper, one of the best known surgeons of the 18th and early 19th centuries. Dr. Cooper studied under John Hunter and in 1789 was appointed demonstrator in Anatomy at St. Thomas, and in 1800 surgeon to Guy's Hospital. A successful operation for a small tumor on the head of George IV was rewarded with a baronetcy. Cooper's books are **Hernia**, 1804; **Injuries of the Joints**, 1822; **Diseases of the Breast**, 1829; **Diseases of the Testes**, 1830, and **Anatomy of the Thymus Gland**, 1832. In 1808 he successfully ligated the common carotid and the external iliac arteries for aneurysms, and in 1817, the abdominal aorta.

Like the University of Washington Cornell Medical Center is another hospital-university combination; New York Hospital amalgamated with Cornell University. It is from this hospital staff that President Kennedy chose his personal physician. A recent gift book was received from this Center, written by Milton Z. Zisowitz, lecturer in the Dept. of Public Health and Preventive Medicine at Cornell University Medical College, entitled **One Patient at a Time: A Medical Center at Work**, Random House, 1960. This is an absorbing account of the day-by-day events occurring in this center; caring for the sick; training doctors and nurses, and the search for better ways to prevent, control and cure diseases. The case studies written up in popular, readable style are authentic, but imaginary names have been used to protect the identification of the patients and doctors. These case studies are of interest not only because they describe the professional diagnosis and treatment, but also because they picture the patient's attitude toward his illness, toward the professional people assigned to his case, and toward his hospital environment.

Esther Howard
Medical Librarian

THE MONTH IN WASHINGTON

The American Medical Association cited more than 50 reasons why the vast majority of the nation's physicians believe the Ad-

ministration's medical care program would be "bad medicine for the people of this country."

The A.M.A.'s objections to the proposal were spelled out in a detailed, 91-page printed statement presented to the House Ways and Means Committee by Dr. Leonard W. Larson, Bismarck, N. D., president of the A.M.A.

The committee held two weeks of hearings (July 24-Aug. 5) on the Administration proposal (H.R. 4222) which would provide limited hospitalization, nursing home care and outpatient diagnostic services for social security recipients. The program would be financed by an increase in payroll taxes on workers, employers and the self-employed.

Dr. Larson declared that the Administration program would force upon Americans a system of health care in which the quality of medical care would deteriorate, in which quality would become secondary to cost.

He said American medicine is the best in the world, medical education unsurpassed and the qualifications of U. S. physicians unmatched.

"Ours is a dynamic system of health care — and it works," he said. "The very fact that we now have 16½ million Americans 65 years of age and older proves that it works.

"Yet, this same system of medical care is now under attack. At a moment when American medicine is pre-eminent throughout the world, it is proposed that we adopt the very systems under which one European nation after another has lost its former leadership in medical science.

"The staggering costs of such plans, the administrative problems they create — let these considerations be secondary," he said. "The important thing is to see, at close range, the disruption of the doctor-patient relationship; the delays in admission to hospitals; the time wasted in the over-crowded offices of doctors; the regimentation of medical practice; the effect of the program on medical research; the availability of medical facilities and personnel — in other words, medicine in action on a government-run assembly-line basis."

Dr. Larson said also:

1. Congress is being asked to plunge into a compulsory government-operated program of health care for certain of the country's elderly without knowing what even the first-year cost will be — whether \$1 billion or \$4

billion — and without any clear idea of the extent of the problem it seeks to solve.

2. The bill under consideration would give a single government official the power to "become the nation's czar of hospital care."

3. Contrary to statements of supporters of the measure that physicians' services are not included in the program, more than 50,000 doctors would be directly affected by regulations and controls exercised by government over operations and administration of hospitals.

4. Enactment of the program would "lower the quality of medical care available to the older people of the United States" because "it would introduce into our system of freely practiced medicine elements of compulsion, regulation and control" by government.

5. The Administration proposal is unnecessary in light of the true economic status of the aged and because of the spectacular rise of voluntary, private health insurance coupled with passage by Congress of the Kerr-Mills Medical Aid for the Aged Law last year and the existence of other public and private programs of aid to the needy.

6. Health care at the expense of the working people would be provided for millions who are financially able to pay for their own care.

7. The legislation "proposes that we distrust the brains and capacities of today's Americans" because "it suggests that the aged — as an entire group — are not capable of looking after their own affairs and providing for their own needs."

8. Increasing costs of the program could impose such a financial strain on social security that the entire system could be jeopardized.

9. The Administration's bill is just as objectionable as the five similar health care proposals rejected by Congress since 1942.

10. The bill would violate "American ideals of independence, self-sufficiency and personal responsibility" by establishing a system in which medical aid would be provided not on the basis of need but on the basis of age.

Dr. Larson described estimates of the cost of the Administration program as "confusing."

The A.M.A. president reminded committee members that HEW Secretary Abraham Ribicoff had told them that "a closer study" had revealed it would be necessary to increase the taxable wage base from the present \$4,800 to \$5,200, rather than the \$5,000 fixed in the bill when it was introduced.

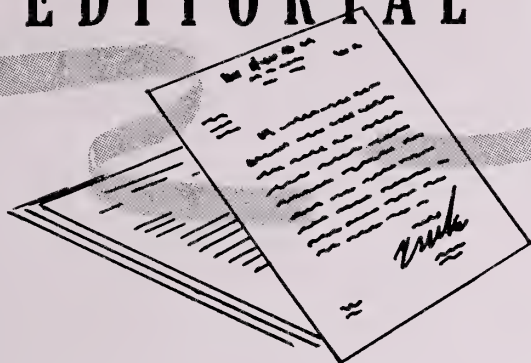
He also pointed out that HEW originally had said nursing home services during the first year of operation of the Administration scheme would cost \$9 million.

But in May, Dr. Larson said, HEW officials reported the figure as "unrealistically low" and lifted it to "somewhere between \$25 million and \$255 million."

"Obviously this estimate is something less than precise," Dr. Larson said.

The A.M.A. president said that supporters of the Administration proposal have built their case on five false premises: 1) that the sociological problems of the older people can be solved through legislation; 2) that most, if not all, of the aged are in poor health; 3) that most, if not all, of the aged are verging on bankruptcy; 4) that the problem of the aged in financing their health costs will get worse before it gets better, and 5) that voluntary health insurance and prepayment plans, private effort and existing law will not do the job that needs doing.

EDITORIAL PAGE



DENVER WINTER MEETING OFFERS EXCELLENT SCIENTIFIC PROGRAM

By Leonard W. Larson, M.D.
President, American Medical Association

The 15th annual American Medical Association clinical meeting in Denver Nov. 26-30 will offer a combination of fundamental post graduate knowledge plus the latest findings in a number of areas of medical research that will be of great benefit to all of us in the conduct of our practice.

As a former member for many years of the Council on Scientific Assembly, I have followed the progress and development of the winter clinical meeting from its inception. I can state without qualification that the program organized for this 1961 Denver meeting is the best that has ever been assembled.

At the annual meeting in New York last June, the Board of Trustees and the House of Delegates once again put their stamp of approval on the winter clinical meeting as a vital part of the American Medical Association's service to its membership to provide continuing education and knowledge.

It is my personal hope and appeal that every member of the American Medical Association will take full advantage of the opportunities offered at the Denver meeting by attending all five days.

There are many highlights in the clinical

programs that will be of value and interest to the clinician.

All of us in practice are well aware that the personal habits of our patients, plus the habits of the social group of which they are a part, play a major role in health.

This phase of medicine has been studied in detail by a group of Colorado physicians, and they will present their findings in a series of papers at the Denver meeting.

Space medicine is very much in the news these days. Many of us are only vaguely aware that the research specialists in space medicine also are learning much that will be of value to the physician in everyday practice. Several specialists in space medicine will present papers analyzing some of these findings.

Every physician knows that heredity is important in tracing the patient's pattern of disease. The research scientists are now learning much more about this important aspect of medicine, and a section on genes and chromosomes and their implications in disease has been scheduled.

It is now possible to get bids and delivery dates on a fullfledged nuclear power plant for private industry. In fact, at least one of these plants already has been built. In the decade ahead there will be many more nu-

clear reactors in everyday use in many geographical areas.

Every possible safety precaution is taken in the installation and operation of a reactor, but there always is the human element, and accidents will happen. The physician in practice, sooner or later, likely will be faced with the problem of treating injuries from reactor accidents.

Specialists in this area will present several papers that will give those of us in practice considerable basic knowledge on how to treat patients suffering from reactor accidents.

I have listed only a few of the many highlights of the clinical program for the November meeting. There will be many other equally interesting and informative presentations.

The winter meeting is designed specifically for the clinician in practice. Let me repeat: the program this year is the best in the splendid history of this meeting.

**REPORT BY
ATTORNEY JOHN H. ZIMMER
Parker, South Dakota**

**on
SOUTH DAKOTA BASIC SCIENCE
BOARD ACTIVITIES**

At the meeting of the Interprofessional Health Council on June 18, 1961, I was requested to make a report of my work for the Basic Science Board to each of the secretaries of the Chiropractic, Medical and Osteopathic Associations. As you know, my work is in the field of illegal practice of the healing arts in South Dakota.

My first contact with the illegal practice of the healing arts came as States Attorney of Turner County, South Dakota. John C. Foster, Secretary of the South Dakota Medical Association, signed a complaint against an alleged illegal practitioner of the healing arts in Turner County, South Dakota. The case was tried to a jury and resulted in conviction of the accused.

During this time I learned that the various legal practitioners of the healing arts and the Basic Science Board had made numerous efforts against illegal practitioners and with

one exception were unsuccessful. The one success was in the City of Sioux Falls where the defendant pled guilty. The lack of success dated back to the passage of the Basic Science Law in 1939.

The party convicted in Turner County, South Dakota, subsequently moved his practice to another county and continued in practice. The success of this criminal prosecution therefore was only temporary.

In December of 1956, a meeting of the newly formed Interprofessional Health Council was held at the Cataract Hotel in Sioux Falls, South Dakota. I was requested prior thereto to make suggestions for improving the methods of handling violators of the Basic Science provisions. At such meeting were representatives of the South Dakota Chiropractic, Medical and Osteopathic Associations.

At the conclusion of this meeting I was instructed to prepare an amendment to the South Dakota Basic Science Law adding injunctive relief thereto. This was done; the same was presented to the South Dakota Legislature, and received passage. Also, the law was changed to permit hiring of legal counsel by the Basic Science Board to handle the business of such Board. The injunctive relief provisions provided that action on injunction could be brought by any citizen in the State of South Dakota.

The South Dakota Basic Science Board met in June of 1957 and retained me as its legal counsel. I contacted the secretaries of the three associations involved to secure what information they had as to the names and locations of Basic Science Law violators. The information, and subsequent personal investigations, indicated that there were approximately 300 illegal practitioners of the healing arts in South Dakota. At one time in Turner County, South Dakota, which is my home county, there were eight illegal practitioners of the healing arts. From known cases it was estimated that the annual income of illegal practitioners of the healing arts in South Dakota exceeded three million dollars.

Since the first day of July, 1957, the South Dakota Basic Science Board has investigated seventy-one alleged illegal practitioners of the healing arts in South Dakota. Many of

the investigations were made through the Criminal Investigation Division at Pierre, South Dakota. A number of investigations were made privately and some came about by reason of direct complaints from licensed members of the healing arts professions.

Since July 1, 1957, the Basic Science Board has conducted twenty-two actions for injunctive relief. In addition to these actions, the Board has conducted four contempt actions and was respondent on two appeals to the Supreme Court.

In each case the plaintiff has been Dr. Gregg M. Evans, the Secretary and Treasurer of the South Dakota Basic Science Board, and a citizen of the State of South Dakota. Dr. Evans has been subjected to a wide variety of cross-examination with attempts to show a personal motive or interest. The law makes it the duty of such Board to prosecute violators and such attempts have been uniformly unsuccessful.

In each case for injunctive relief and contempt citations the Board was upheld by the courts. The two Supreme Court cases were resolved in favor of the Board.

In addition to those parties against whom direct court action was commenced, a number of parties in addition thereto voluntarily ceased operation. A number of these were among the seventy-one investigated and in a number of other cases parties ceased operation before the Board secured investigative information.

The original funds to carry on this work were secured by assessments of the membership by the Chiropractic, Medical and Osteopathic Associations. The Interprofessional Health Council met in December, 1958, and decided that to insure stability of income for carrying on this work an annual renewal fee of not to exceed \$10.00 per year should be placed upon holders of Basic Science Certificates. This was approved by the Interprofessional Health Council and such a bill was presented to the 1959 Legislature and received passage. The entire proceeds from the annual renewal fee of the Basic Science Certificates has been utilized in preventing the illegal practicing of the healing arts. In fact the Basic Science Board has utilized additional funds in this work, which funds were received from applicants for original licensure.

No two cases of an illegal practice of the healing arts are identical. However, each case has numerous similar characteristics. It is therefore of value to cite the facts of one case to get an understanding of some of the fundamentals involved in each case. A complaint was received in July of 1957 that a certain lady was violating the laws relative to the practice of the healing arts. The South Dakota law provides that no person shall

"In any manner engage in, offer to engage in, or hold himself out as qualified to engage in the diagnosis or treatment of any human ill, unless such person is the holder of a legal and unrevoked license or certificate issued under the laws of South Dakota authorizing such person to practice the healing art covered by such license."

This is basically the heart of the South Dakota healing arts law.

The complaint against this particular person came from a medical doctor. Upon investigation it was found that the activities of this person were quite well known in the community involved.

This person secured the small town offices of an elderly medical doctor, and much of the equipment used by such doctor. She had several employees and was obviously enjoying a very lucrative practice. In December of 1955 this person purchased waiting room equipment and other miscellaneous supplies and gave a mortgage thereon in excess of \$2,000.00. This mortgage was entirely paid off in less than two months. The said party had no other apparent source of income.

The Attorney General was contacted. With his permission the services of the Criminal Investigation Division of the Attorney General's Office of the State of South Dakota were enlisted and an agent of this office in company with another party went to the office of the alleged illegal practitioner. On entering the office they were told by a receptionist that the doctor would be with them in a few minutes.

The investigator made complaint of a leg disorder. He was taken to a back room by the supposed doctor and given treatment by a machine emitting electrical radiation. Throughout this time all parties continued to refer to the illegal practitioner as "Doctor."

At the time the investigators were in the building, there was one other patient receiving treatment. During the time such other patient was in the building, something apparently went wrong and the illegal practitioner advised our investigator that such party had suffered a slight stroke. Such party was sent home with instructions to take it easy. The next day this party went to a licensed practitioner of the healing arts, was hospitalized, and his condition was diagnosed as being caused by a cerebral hemorrhage.

The party who suffered the stroke was contacted. On the witness stand during the trial of the illegal practitioner this person stated he thought the person to whom he went was a legitimate doctor. He stated that several years prior to the visit when he suffered the stroke he had gone to this same person and that she gave him pills to reduce his blood pressure.

On the witness stand the defendant stated that the equipment at her place of business included a stethoscope, an instrument for measuring blood pressure, a diathermy machine, a hydrotherapy machine, and an x-ray machine. She stated that she was a graduate masseur and when asked if she could treat disorders of various sorts such as rheumatism and arthritis, she answered, 'Yes'. On her wall she kept various degrees, one of which showed her to be a naturopathic doctor and proficient in the healing arts. Another degree alleged her to be a doctor of philosophy and proficient in the healing arts. She admitted using advertising including signs and television. She stated she had been in the locality for about four years and that a number of patients had been referred to her by other doctors.

The Court in this instance found that she had violated the healing arts laws of the State of South Dakota and granted an injunction against her. Shortly thereafter an action was brought against her for contempt for failing to remove signs which the court found she was not to be allowed to use and she was found guilty.

Thereafter she left the State of South Dakota and since that time a number of inquiries have been had relative to this person from other states. She has applied for various licenses in Indiana and Illinois. Letters of

inquiry were sent to South Dakota by such states and needless to say they refused her licensure.

Another person whom the Court found had illegally practiced the healing arts on examination stated that in eight years of business he had grossed in excess of two hundred and fifty thousand dollars. This figure would appear ridiculous except that one of the agents who investigated this party stated that he was at the party's home at two o'clock in the afternoon and registered in as the forty-first patient that day. The normal charge per patient by illegal practitioners is from \$2.00 to \$4.00 each.

The defendant in another case stated that he charged \$2.00 per treatment and estimated in the two years prior to trial he had given in excess of ten thousand treatments.

At this time the available funds for carrying on this work come entirely from the annual renewal fee of the Certificates of Basic Science holders thereof. The money secured from such renewal fees amounts to approximately \$5,800.00 per year.

The Board presently has nine active files on illegal practitioners of the healing arts, all of which it is hoped will be processed and completed within the next three or four months. There are other complaints against violators in our files whom the Board has not investigated at this time.

Originally the complaints against violators stemmed from cases involving the performance of personal service. The violators were almost exclusively those claiming to be masseurs, naturopaths or reflexologists.

At this time the Board is commencing to receive complaints on other matters. It would appear that one of the latest bunco games involves wonder healing products, hair restorers, glasses, et cetera. Just what all lies ahead in this regard remains to be seen.

It is obvious that the South Dakota Basic Science Board operates on a limited budget. When the Board seeks to stop an activity which has been netting the violator an annual income often in excess of \$10,000.00, we anticipate a contest. Therefore, it is necessary that the work done be carried on methodically within the limits of available resources. Such being the case, the Board recognizes that at all times we cannot give the complete

and fast service desired.

From information gained at national conferences and through correspondence, it would appear that the South Dakota program on the illegal practitioners of the healing arts is one of the most active in the nation, and, in the cooperation of the three licensed professions, absolutely unique.

It is hoped that this brief resume of the activities of the Basic Science Board, the problems involved, and the necessary limitations of its work will help the Certificate holders to better understand its functions. We also solicit their active interest in our program and appreciate any information they can give.

Dear Doctor:

Occasionally National Foundation chapters are billed by physicians for personal professional services in the care of patients with acute or residual paralytic poliomyelitis. Although this is not a widespread practice, it is at times a source of embarrassment in that current chapter patient aid policies do not authorize payment of professional fees.

These policies, which became effective in 1959, were a result of considerable study and discussion. Prior to that time, it had been permissible for National Foundation chapters to reimburse physicians for their services, and approximately one-third of our 3100 chapters had been doing so in some degree.

Our decision to eliminate such payments was influenced by several factors. We realized the overriding necessity of having uniform national policies, since it is quite common for physicians to treat polio patients from several chapter areas. We were also aware of the fact that physicians in some communities had been objecting to the practice of the payment of fees because of the problems of third party involvement and fee schedules which had not been worked out to everyone's satisfaction.

Physicians' criticisms were generally characterized by a resolution introduced into the American Medical Association House of Delegates in June 1959 by the Tennessee State Medical Society. This resolution, which was

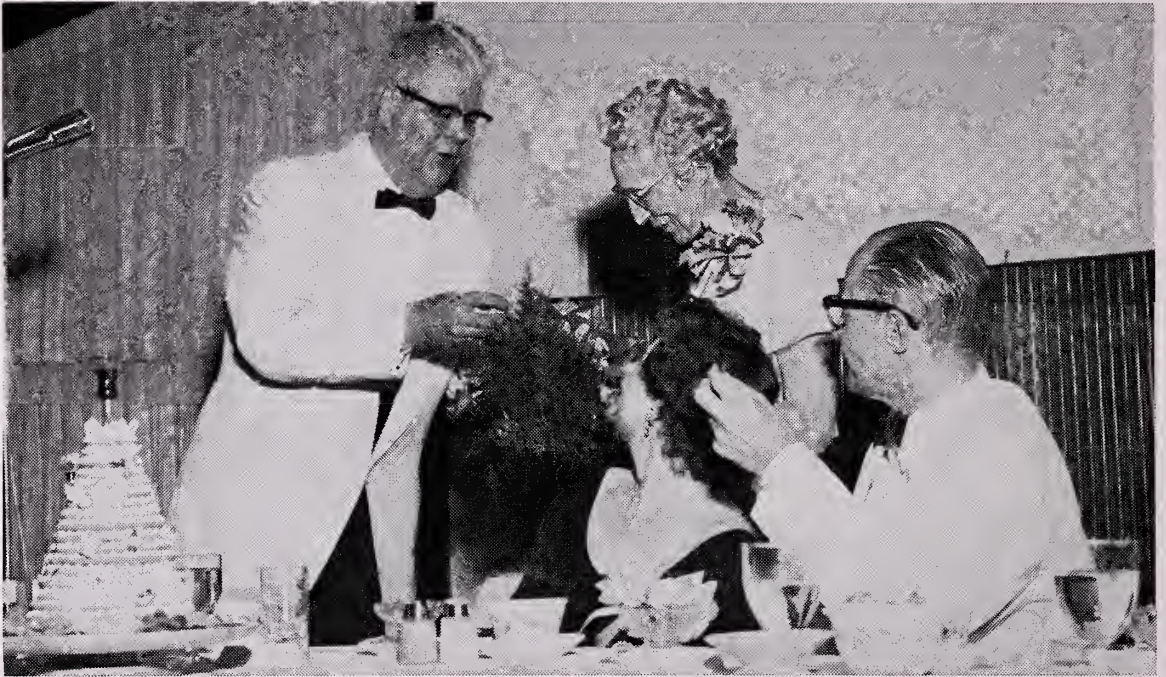
subsequently modified and passed by the House of Delegates in June 1960, in effect expressed disapproval of our past practice of permitting payments of physicians' fees within the judgment of the Chapter Executive Committee.

Our studies of the problem, which began in 1958, had led to the conclusion that we could not develop a comprehensive and fair fee policy devoid of exercised controls by a substantial number of lay administrators of individual chapters. Moreover, we questioned the wisdom of encouraging the expenditure of voluntary contributions from a dedicated segment of our national population to cover the costs of physicians' services if the patient is unable to pay.

Current patient aid policies are based on the concept that the high cost of catastrophic illness derives from the numerous services and lengthy hospitalizations necessary for adequate care of chronic disabling diseases rather than from medical fees. We believe that the economic burden of catastrophic illness should preferably be alleviated by giving assistance for the burdensome ancillary costs of essential long-term or intensive care. Moreover, we believe that National Foundation assistance to families afflicted with such chronic diseases should be available to all who might suffer severe economic hardship from such an event. Thus our current policy permits assistance to families of private as well as non-private patients without involvement in the traditional patient-physician relationship, and without concern in the matter of the physician's and surgeon's fee.

I write this letter to you in the hope that it might aid in the interpretation of our concept to the medical profession, and perhaps minimize misunderstandings. I should like to add that our staff would be happy to continue discussions of this complex problem and, if modifications of chapter patient aid policies are desirable, such would be given serious consideration.

Sincerely yours,
William S. Clark, M.D.
Director of Medical Care



Dr. C. R. Stoltz, President of the State Medical Association, hands a bouquet of roses along with the 50 Year pin to Dr. Goldie Zimmerman, first woman physician to be so honored by the Association. Dr. and Mrs. C. J. McDonald look on.



R. J. Quinn, M.D., formerly at Burke, now Director of Intern Training at McKennan Hospital, Sioux Falls, accepts his 50 Year pin at the 80th annual banquet.

**STATEMENT OF THE SOUTH DAKOTA
STATE MEDICAL ASSOCIATION ON
HR 4222 PREPARED FOR THE HOUSE
WAYS AND MEANS COMMITTEE**

For the purpose of identifying the organization making this statement we would like to point out that the South Dakota State Medical Association was organized in 1882, nearly 80 years ago. It has been an effective organization since that time. Membership is voluntary and virtually all doctors belong. We have 485 licensed physicians in the state and 477 are members. We are organized into an association to assure continuing improvement in the medical care received by our people. Our services to the public and to our members encompass all fields that affect the health of the people. We actively support programs designed to decrease infant mortality, to prevent or treat congenital defects, to alleviate the affects of acquired defects. Rehabilitation programs, mental health programs, immunization for all and a host of other related programs are given continuing interest. We actively support medical education and nursing education both in advisory capacities and by lending financial support. Available to our members are efficiency rating programs designed to increase individual physician diagnostic ability. We enter into legislative activity only when proposed legislation might influence directly the health care of our patients or when a program is proposed, which program would alter or change the basic concepts of the practice of medicine as we know them.

Our association has long been concerned with the quality and quantity of medical care available to the indigent and to the needy. This is best demonstrated by our successful efforts introducing and supporting legislation for adequate and high quality care for those on Old Age Assistance in 1957 and 1961. It is further demonstrated by our active support for the Kerr-Mills Legislation both on a national and a state level. We believe the Kerr-Mills Law, properly implemented, will provide an equitable and honorable means for providing medical aid to the aged at the time such need develops. We believe

people of all ages are deserving of the same opportunity. We do not believe that individuals of any age should receive community, state or federal aid for their medical care in the absence of demonstrated need.

In South Dakota there are 8700 people over 65 on Old Age Assistance. In 1940 there were approximately 15,000. A small number presently on Old Age Assistance also receive minimal social security benefits. The number is variously stated to be between 60 and 100.

Our medical program for the so-called indigent aged includes physician and hospital coverage both in and out of the hospital or nursing home; the counties provide the financial aid for drugs and related items. The program also provides some dental care.

As previously stated our Association introduced and supported enabling legislation for a state wide indigent medical care program in 1957. This was done recognizing the need for adequate quality and quantity care within our borders. The State Legislature this year appropriated funds to match available federal funds such that the program advised in 1957 is now being started as of August 1, 1961. We of the Association believe this was accomplished through our efforts demonstrating the presence of a problem and its equitable solution.

Our State has a population of approximately 680,000. Census figures show that those over age 65 account for less than 11 percent, or 71,500 people. The number of aged not on OAA is 62,800. Of this number we believe about 5,000 fall into the category of those who might need financial aid in the presence of an illness — some with a minor illness, others with a catastrophic illness only.

The figure of 5,000 is obtained in the following manner. Of the approximately 70,000 over 65 and not on OAA, some 25- to 30,000 are already in a position to receive subsidized care either through federal programs such as the Veterans Administration program; or State programs such as the State Mental Hos-

pital, State Soldiers Home, and others. The remaining 40- to 45,000 aged are covered in well over 50% of the cases by some form of voluntary insurance which usually pays the majority of their hospital and physician bills, particularly since it is the policy of our Medical Association members to charge substantially reduced fees to the aged when there is any question of insolvency. These fees vary between 50 and 75 percent of normal fees and are designed only to offset the physician's expense.

Utilizing these figures we estimate approximately 5,000 individuals over 65 remain over the original 75 to 80 thousand over 65, who conceivably might need financial aid in any one year. It is for these we have urged the Kerr-Mills Legislation.

Our actions, our attitudes, our waiting rooms testify to our concern for proper care of all age groups, not just the aged. My presentation demonstrates our acknowledgment of the existence of a problem; but more specifically demonstrates our belief the problem is not overwhelming, and demonstrates that we thoroughly believe existing federal legislation will make possible and probable solution of the problems of the care of the needy aged within the foreseeable future.

We have studied the provisions of HR 4222 and oppose it. Our objections are basically four though each objection has ramifications covered adequately by other opposition witnesses.

First, we believe the actual financial need of the majority of the aged during times of illness has not been demonstrated. The picture of past and present actions in South Dakota as they relate to medical care of the aged supports our position.

Second, we object to the proposed change in the entire philosophy of social security from a program of payment of monies to one of provision of services. The inherent danger of the change is that it puts the government into the field of paying for services where it must, by the nature of government itself, control those services.

Third, we believe the placing of government in control of services will result, over a period of time, in deterioration of the quality of care offered. This conclusion is nearly always expressed when men of high professional stature meet to discuss means to solve

the known problem of providing care to all. Involved here are problems which would be created by over-utilization of services, by increased difficulties of recruiting properly motivated people to be physicians or trained paramedical personnel. Specific discussion of these points will receive coverage, we believe, by other opposition witnesses.

Fourth, we believe the cost of such a program as proposed by HR 4222 is almost impossible of prediction. That the cost would exceed predictions is almost certain. The economic forces set loose by high level benefits and the necessary taxes are frightening. Again, our thoughts concerning costs and taxes are conclusions generally held by physicians and actual tabulated expectations fall more into areas covered by other opposition witnesses.

We in South Dakota believe the problem of medical care for the needy and near needy aged can be and is being solved gradually under existing legislation; through cooperation of the governmental agencies involved and those who now actually provide the services.



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P R E S I D E N T ' S P A G E



As of August 15th, the following program is in effect on Old Age Assistance.

Item #1: O.A.A. recipients are given a card each month that entitles them to one house, office, or nursing home call.

Item #2: If a patient needs hospitalization, that authority must come from local Welfare Office before admission, upon application by the doctor. Remember, if the hospitalization is an emergency, you must have authorization within 72 hours.

Item #3: O.A.A. recipients are entitled to 30 days hospital care if necessary. Each case requiring ten days hospitalization or longer will be reviewed by a newly appointed hospitalization committee. If the committee decides that the recipient would get along just as well in a nursing home, then he must leave the hospital. This relieves some of the pressure for continued hospitalization that is put on the doctor by the recipient and his family.

Item #4: Injections of medication in the office are a dollar extra.

Item #5: If the recipient has an accident, he is allowed up to \$20.00 emergency care in a doctor's office without further authorization, providing he has his monthly authorization card.

Item #6: Remember to bill in triplicate, using the Relative Value Fee Schedule. Multiply each value by \$3.20. You will receive \$3.00 per point, and the 20c goes for administration of this program by the State Medical Association and the South Dakota Medical Service. Also, the bill for office calls, house calls, or nursing home calls should be separate from that of hospitalization. In other words, use another triplicate bill for hospital cases.

Item #7: It can be emphatically pointed out here at this time, that services are only to be rendered to recipients with an authorization card, and they are not transferable! Do not forget that when you sign your bill, you are agreeing under penalty of perjury that you actually gave the service to the person whose name appears on the top of your bill.

There are to be further clarifications of this program. As they come out you will be informed by our state office.

C. J. McDonald

President

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NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

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NEWS NOTES

Richard D. Hockett, M.D., specialist in obstetrics and gynecology, has become associated with the Delaney Clinic in Mitchell, South Dakota.

* * *

Charles Tyler, M.D., doctor of internal medicine, joined the office of **Dr. Stuart Simon** the first of August.

* * *

The Rapid City Medical Center announces the addition of two medical specialists to their staff, a urologist and a general surgeon. **Joe Gunter, M.D.**, the urologist, is a graduate of Southwestern Medical School of the University of Texas, and practiced for five years in Springer, New Mexico. **Charles B. Gwinn, M.D.** the general surgeon, is a grad-

uate of the University of Michigan and served as a medical officer in the U. S. Navy for two years.

* * *

Rochester, Minnesota, will be the scene of the meeting of the Midwest Regional Group of the Medical Library Association October 27 and 28, 1961. Inquiries about the meeting may be addressed to **Mr. Thomas E. Keys**, Librarian, Mayo Clinic, Rochester, Minnesota.

* * *

The **First National Congress on Medical Quackery**, co-sponsored by the American Medical Association's Department of Investigation and by the Food and Drug Administration, will be held in Washington, D. C., October 6th and 7th. Taking part in the program will be officials from federal agencies and the AMA; representatives of national voluntary organizations involved in, or interested in, the health field; and members of law enforcement agencies.

Dr. Bruce Lushbaugh has joined the staff of the Brookings Clinic in general practice.

* * *

The Interstate Postgraduate Medical Association of North America has announced that it will hold a scientific assembly in Cleveland, Ohio, November 13th through 16th, 1961. For information on luncheons, hotel reservations and such, interested physicians are asked to contact **Erwin R. Schmidt, M.D.**, Box 1109, Madison 1, Wisconsin.

* * *

John C. Foster, South Dakota Executive Secretary, was re-elected Secretary-Treasurer of the Medical Society Executives Association at its annual meeting in New York. The Association is made up of 300 state, county and national medical executives.

* * *

Dr. Charles Monson has associated himself with **Dr. John McCann** in Parkston.

NEWS NOTES

Five postgraduate courses patterned for the practitioner are planned for the fall and winter, 1961-1962, at the Medical College of Georgia, Augusta, Georgia. They are as follows:

Advances in Pediatric Diagnosis and Treatment, Oct. 31-Nov. 2, 1961.

Fractures in General Practice, Nov. 14-16, 1961.

Obstetric Problems in Private Practice, Jan. 23-25, 1962.

Cardiac Emergencies, Feb. 13-15, 1962.

Pre and Postoperative Care, March 20-22, 1962.

Each course is acceptable for 18 hours of Category I credit by the American Academy of General Practice. Registration is limited to a small group for close participant-faculty communication. The registration fee is \$50.00 per session. For further details, contact Dr. Claude-Starr Wright, Director, Department of Continuing Education, Medical College of Georgia, Augusta, Georgia.

* * *

Dr. John Adams, longtime Aberdeen physician, passed away in California in July. Dr. Adams left Aberdeen in 1941 to practice in San Dimas, California.

* * *

Dr. Byford Anderson has joined the staff of the Home-stake Hospital in Lead.

* * *

Donald D. Hillan, M.D., for the past six years associated with the Madison Clinic, has joined the staff of the Aberdeen Medical Center.

The 7th annual meeting of the **American Rhinologic Society** will be held in the Belmont Hotel, Chicago, October 7th. Speakers will include Dr. Ivan W. Philpott of Denver; Dr. Robert L. Goodale of the Harvard Medical School, Boston; and Dr. Robert M. Hansen of Portland, Oregon. All physicians are invited; there is no registration fee. For further information, contact Dr. Robert M. Hansen, Secretary, 2210 Lloyd Center, Portland 12, Oregon.

DR. J. L. CHASSELL HONORED

Over 275 people, representing three generations from almost every town in the Tri-State area, gathered in Belle Fourche to pay their respects to J. L. Chassell, M.D., on the occasion of his 90th birthday.

All of Dr. Chassell's children were present for the occasion, along with his seven grandchildren. However, two sons-in-law were unable to attend.

The observance was highlighted by an open house in the afternoon and evening at the Congregational church.

Dr. Chassell began practicing medicine in Belle Fourche in 1906 and has continued there through the years. A few years ago he tapered off his activities to serve as a consultant at the hospital.

DEDICATION OF MEDICAL RESEARCH WING OF UNIVERSITY OF SOUTH DAKOTA

The State University of South Dakota will dedicate the new Medical Research

Wing of the Andrew E. Lee Memorial Medical and Science Building on September 29 and 30, 1961 in Vermillion, in conjunction with a scientific program for the annual meeting of the state chapter of the American Academy of General Practice.

Guest speakers Friday morning, September 29, will include Dr. Lee Powers, Associate Director of the Association of American Medical Colleges of Chicago, Illinois and Dr. Joseph S. Murtaugh, Chief of the Office of Program Planning, National Institutes of Health, Bethesda, Maryland. There will be a tour of the medical school and scientific exhibits followed by a buffet luncheon given by the University. Friday afternoon will be devoted to a seminar on diseases of the thyroid. Among those speaking will be Dr. William McKendree Jeffries, Chief of the Endocrinology Clinic and Endocrinology Research Laboratories of Western Reserve University School of Medicine. There will be a dinner Friday evening at The Black Steer restaurant in Yankton, preceded by a social hour courtesy of Kreiser's, Incorporated of Sioux Falls.

On Saturday, September 30, a seminar on Mass Casualties will be held. The morning session will be directed toward the practising physician who may be called upon to handle large numbers of patients in a civilian or military disaster situation. The afternoon will be devoted to the administrative aspects of the problem and will be of especial interest to

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hospital administrators, nursing personnel and personnel of the Office of Civil Defense Mobilization. Featured speakers will include Col. F. A. Neuman, Director, Department of Nuclear Warfare, and Col. G. F. Rumer, Director, Department of Military Medicine and Surgery, both of the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Texas. Also, on Saturday afternoon, there will be a symposium on liver disease with special reference to jaundice. Among the speakers will be Dr. Don R. Miller of the Department of Surgery of the University of Kansas Medical Center. Of interest to sports fans will be the Saturday night football game between the University of South Dakota and Augustana College. The complete program of the dedication and scientific meeting will be distributed around September 1st.

Sunday, October 1, the Medical School is sponsoring an open house for the laity to view the new research facility, and to see on display some of the research studies in progress. In conjunction with this open house, a special "Career Day in Medical Sciences" is being arranged for interested high school and college students throughout the state. Physicians are asked to spread this information to any of their acquaintances in the local community so that the youth of the state can see first-hand the excellent facilities for medical study in the state. Details on this program will be directed to all high schools early in September.



PHARMACEUTICAL

SECTION

GUILFORD C. GROSS, PH.D.

EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota

CONVENTION REPORTS*

**REPORT OF THE SECRETARY
SOUTH DAKOTA STATE PHARMACEUTICAL
ASSOCIATION
AND
SOUTH DAKOTA STATE BOARD
OF PHARMACY**

Mr. President, Members of the South Dakota Pharmaceutical Association, and Guests:

The books and records of the secretary's office were submitted, again this year, to Keenan and Craig, Certified Public Accountants, Aberdeen, for the annual audit. The financial figures in this report are for the fiscal year beginning June 1, 1960 and ending May 31, 1961. During this period a total of \$30,006.20 was handled by the secretary's office. Board of Pharmacy receipts were \$16,406. Association receipts were \$13,600.20.

The renewal of Registered Pharmacist certificates and one Assistant pharmacist certificate brought in a total of \$9,111.00, which was credited to the Association's General Fund as payments required by law. Association receipts, other than certificate renewals, were credited to the Commercial and Legislative Section Fund in the amount of \$4,489.20. Expense warrants drawn on the General Fund during the fiscal year were \$9,104.57. Expense warrants drawn on the Commercial and Legislative Fund were \$4,056.80. Disbursements to the Association accounts totaled \$13,161.37. The gain in net worth for the Association as shown in the audit report is \$438.92.

The cash receipts to the State Board of Pharmacy have reached another all time high of \$16,406.00, being \$581.00 more than for the previous year. Expense warrants drawn on the Board of Pharmacy account during the past year were \$16,551.82. The loss in net worth for the Board of Pharmacy account as shown in the audit report is \$145.82.

All monies received by the secretary were remitted to the treasurer on or before the last business day of each calendar month. This leaves a minimum bank balance of zero for nearly every month of the year. We deposit nearly 4,500 items in the Pierre bank during the course of a year. A bank service charge of less than one percent per item is therefore very reasonable. Copies of the audit reports will be submitted to the Finance Committee and published in the proceedings.

Association Membership Report

Members in good standing on June 20, 1960	942
Reinstated by renewal payments	3
Registered by reciprocity	3
Registered by examinations Jan., 1961	15
Registered by examinations June, 1961	27
Total increase in membership	48
	990
Active members deceased	8
Renewals unpaid for 1960-61	21
Active members to honorary membership	4
Total LOSS in membership	33
Pharmacists in good standing, June 19, 1961	957

Certificate Renewals Records

1960-61 Renewals paid to June 19, 1961	896
1960-61 Renewals FREE to members in Armed Forces	21
Original Certificates valid to October 1, 1961	18
Certificates due on June, 1961, examinations	27
Less 1960-61 renewals paid by deceased members	962
	5
Certificates accounted for membership on June 19, 1961	957

The certificate of one Assistant Pharmacist is still in good standing.

Commercial and Legislative Section

Drug Store Members

1961 Drug Store Members paid to June 19, 1961	166
1960 Drug Store Members paid to June 20, 1960	166

Record of Registered Pharmacies

Registered Pharmacies reported on June 20, 1960	242
Permit not renewed for 1960-61	1
Total permits renewed for 1960-61	241
New Pharmacy established during year	1
Total Pharmacy Permits issued for 1960-61	242
Pharmacies discontinued during the year	3

Pharmacies registered as of June 19, 1961 239
Application for the registration of one new pharmacy has been filed with the Secretary and will be acted upon by the Board of Pharmacy at the Board meeting following this convention.

**LICENSED DEALERS OTHER
THAN PHARMACIES**

For the fiscal year ending June 30, 1961, the Board of Pharmacy issued 129 individual licenses to sell selected household remedies. This is a decrease of 3 licenses over the previous year.

As of May 31, 1961, 647 retail places of business were licensed to sell certain poisons for the 1961 calendar year. This is a gain of 58 licenses over the same date in 1960.

For the fiscal year ending June 30, 1961, the Board of Pharmacy has issued 2,306 licenses to retail places of business for the sale of patent and proprietary medicines. This is a gain of 313 retail stores that are licensed to sell patent medicines over the same date one year ago. What can these 2,306 stores sell? Every packaged medicine which you, as pharmacists, display and sell outside of the Restricted Drug Area in your pharmacies. What do the restricted drug areas amount to at the present time? According to the new routine pharmacy inspection reports, which most of you have signed, and which are on file in our office, they consist generally of a small section of wall-shelving which is distinguished to the public only by the small printed signs furnished through our office. This is what the Board of Pharmacy ordered following our Brookings convention in 1959. At that time, you resolved: "that the method of institution of the proposed regulations be completely governed as to when and how by the Board of Pharmacy." After two years of "when and how," the pharmacists of South Dakota have demonstrated that it "can be done" and that a limited restricted drug display is now maintained in every

* These reports have been selected from the proceedings of the 75th Annual Convention of the S. D. Pharmaceutical Association, Rapid City, June 18, 19, 20, 1961. In most instances they have been edited to conserve space. Complete reports will appear in the Annual Proceedings.

registered pharmacy in the state. The question now is: Are pharmacists ready to increase the size of their restricted drug display to include an actual "floor area" within which all restricted items shall be displayed and offered for sale? Such a proposal is scheduled for discussion at this convention. Your action will determine whether patent medicine licenses will continue to increase as they all have during the past year.

At our convention last year, a resolution was adopted recommending that the Board of Pharmacy adopt a proposed rule and regulation which would prohibit the registration of new pharmacies in buildings owned by practitioners who prescribe drugs and where the rent would be on a percentage basis of the volume of business done by such a pharmacy, after such proposed regulation has been submitted to all state associations of practitioners of the healing arts for their consideration and approval by such professions. This office submitted mimeographed copies of such proposal to the dental, medical, osteopath and veterinary association secretaries for distribution to members of these professions. While the Council and House of Delegates to the South Dakota Medical Association did not approve this proposal at their convention last month, they did recommend that, "in the event the South Dakota Pharmaceutical Association desires further consideration of its proposal, that such Association initiate joint study of this subject by the Committees of Liaison representing the two associations."

It was my privilege to appear before Legislative Committees in support of three measures which were sponsored by this Association during the 1961 Session. House Bill No. 633 was an Act to amend Section 27.1008 of the Pharmacy Law pertaining to Pharmacy Internes and Pharmacy Apprentices. As originally introduced this Bill would have repealed all of the material under this section relating to pharmacy internes. Such material provided for a passing grade in written subjects as qualification for interne certificate. Unless this provision was repealed the Board of Pharmacy would have had to continue the practice of offering examinations in written subjects to candidates who had not completed the practical experience requirement. The Bill passed the House but it was objected to in the Senate where it was sent back to committee for revision. The revised Bill retained the provision for interne certificates but repealed all material relating to separate examinations in written subjects. Qualifications for apprentice certificates were raised from high school graduate to enrollee in a college of pharmacy and as so amended the Bill was enacted into law and is now "Chapter 130 — Session Laws of 1961." House Bill No. 634 was for an Act to amend Section 22.1308 of the Uniform Narcotics Law. The Bill removed all references to the drug "dihydrocodeinone" from this Section pertaining to exempt-narcotic preparations. This Bill was enacted into law and is now Chapter 111 — Session Laws of 1961."

Senate Bill No. 245 was introduced by the Committee on Education, Health and Welfare, and it gives the Board of Pharmacy authority to add or delete pharmaceutical preparations from the requirements of the State Uniform Narcotic Drug Law under the same conditions as are permitted by the Federal regulations dealing herewith. This Bill was enacted into law and is now "Chapter 135 — Session Laws of 1961."

The 1961 Legislature appropriated \$350,000.00, each year of the biennium, to match federal funds to provide medical care for old age assistance recipients. As Secretary of this Association I attended several meetings called by the State Director of Public Welfare in regard to this program. It was originally anticipated that prescription drugs would be included for vendor payment to pharmacies. We had suggested a program similar

to the Veterans Administration prescription service and a uniform fee schedule. Joe Cholik, of Pierre, has been appointed to represent pharmacy on an Advisory Committee to the State Welfare Commission. He will probably report to this convention on the meetings which he has attended and the status of pharmacy in this medical care program at this time.

Since our last annual meeting it has been my privilege to represent this Association at two annual conventions of the American Pharmaceutical Association. The 1960 convention was held in August in Washington, D. C. The 1961 convention was held two months ago in the city of Chicago. One of the most urgent topics discussed at the Chicago meeting was the antitrust actions brought by the Justice Department against pharmacy associations in Arizona, California, Idaho and Utah and charging that the use of prescription pricing schedules was in violation of the Sherman Anti-Trust Act.

In fighting the Justice Department in these cases, local and state Associations have exhausted their funds and they have appealed to the American Pharmaceutical Association for assistance. A resolution adopted at the Chicago American Pharmaceutical Association convention reads:

"Whereas, certain antitrust cases are now pending which are vital to the entire profession, therefore

"Be It Resolved, that the House of Delegates endorse the action of the Council that the American Pharmaceutical Association undertake at once a national fund-raising drive among individual pharmacists to defend the professional principles involved in these test cases."

Printed material has been supplied by the American Pharmaceutical Association for distribution to individual pharmacists and we urge you to make out your check before you leave Rapid City so that it can be sent in a group mailing from this convention.

In our letter of March 18th, we gave every pharmacist residing within the state an opportunity to vote by mail-ballot as to whether or not they favored increasing the size of the Restricted Drug Area in pharmacies to include pre-packaged veterinary medicines as described in such letter. The vote up to this time is 156 Yes and 30 No. The State Board of Pharmacy would like to have a thorough discussion of this subject in one of our closed meetings to determine whether regulations should be amended to this effect.

On July 31, I will have completed twenty years as Secretary of this Association and the Board of Pharmacy. The work load for the Board of Pharmacy keeps increasing every year and since this has preference over my duties as Association Secretary some of the things I would like to do have been left undone. I appreciate the cooperation I have had from the officers and members of the Association and Board. It has been a pleasure to serve as your Secretary for another busy year.

Bliss C. Wilson
Secretary

ANNUAL REPORT OF THE SOUTH DAKOTA STATE BOARD OF PHARMACY

Honorable Archie M. Gubbrud,
Governor of South Dakota,
Pierre, South Dakota.

The South Dakota State Board of Pharmacy is pleased to submit the following report of its activities during the fiscal year beginning June 21, 1960 and ending June 20, 1961, as required by the provisions of SDC 27.1006. Seven meetings of the Board were held during this period.

The Board held its first meeting at Aberdeen on June 21, 1960, following the annual meeting of the South Dakota Pharmaceutical Association, at

which time the application of Maris D. Williams was approved for the registration of and for a permit to open and conduct a new pharmacy at Mobridge under the name of "Mobridge Drug." Due to illness in his family, President Harold V. Mills was not able to attend this meeting.

The second meeting of the Board was held in Rapid City on August 11, 1960, to accommodate several persons in the Black Hills who had requested a meeting with the Board. Among these was W. R. Waxler of Hot Springs who was granted reciprocal registration from the State of Illinois. Registered pharmacist certificate dated August 11, 1960, was issued as follows:

R-3403 W. S. Waxler Hot Springs, S. D.
At this meeting the Board approved a new routine inspection report form including information regarding the Restricted Drug Area in registered pharmacies. It was ordered that these inspection forms be printed in triplicate and that a signed copy of each report be left with the pharmacy by the inspector.

The third meeting during the fiscal year was held at Sioux Falls on October 2, 3, 1960, when the Board of Pharmacy and the Division of Pharmacy at South Dakota State College were hosts to the Fifth District Meeting of Boards and Colleges of Pharmacy from the five-state area of Iowa, Minnesota, Nebraska, North Dakota and South Dakota. Mr. Theodore E. Huestead presented credentials of his appointment by Governor Ralph Herseth to membership on the Board of Pharmacy for a term of three years ending September 30, 1963. Roger F. Eastman was elected President of the South Dakota Board of Pharmacy for the ensuing year. The Board authorized the refund of a reciprocity fee to Richard D. Carlson, who withdrew his application for reciprocity from the state of Minnesota. The dates of January 10, and 11, 1961, were set by the Board for conducting Practical-Laboratory and Oral examinations in Brookings for candidates who would complete requirements for licensure by such dates.

In the annual meeting of the Boards and Colleges of Pharmacy, President Roger Eastman acted as Chairman for the Boards and Dr. Harold S. Bailey of South Dakota State College was Chairman for the Colleges. Members A. O. Bittner and Ted Huestead appeared on the District meeting program.

The fourth meeting of the Board of Pharmacy was held in conjunction with the Executive Committee of the Pharmaceutical Association at Pierre on November 20, 1960. Inspector Harry M. Lee reported on his activities in correcting pharmacy law violations in non-pharmacy retail outlets. As a result the number of patent medicine licenses has greatly increased over any previous year.

The fifth meeting of the Board was held at Brookings on January 10 and 11, 1961. The Board conducted practical examinations for fifteen candidates who had previously passed written examinations and one candidate appeared for final consideration of a reciprocity application. Registered pharmacist certificates dated January 11, 1961, were granted as follows: Bruce J. LaMere (R-3404), Watertown; Melvin J. Anderson (3405), Pierre; Marshall Brook Davis (3406), Vermillion; Greta Houtman DeBates (3407), Webster; Larry Verdell Detmers (3408), Sioux Falls; Harold L. Doeden (3409), Brookings; James G. Grosenick (3410), Ortonville, Minnesota; Dennis R. Hoagland (3411), Brookings; Bruce R. Johnson (3412), Amery, Wisconsin; David Paul Koster (3413), Lake Benton, Minnesota; Donald K. Lord (3414), Milroy, Minnesota; Cornelius C. O'Hearn (3415), Worthington, Minnesota; Owen R. Pool (3416), Brookings; Verlyn L. Smith (3417), Brookings; LeRoy C. Stacey (3418), Clark; Roberta Taylor (3419), Mitchell.

The sixth meeting of the year was held at Pierre

on March 26, 1961, where approval was given for revised forms of application for registration by examinations and pharmacy interne certificates so as to conform with revisions of the Pharmacy law of the 1961 Session of the State Legislature.

The final meeting of the Board was held at Brookings on June 6, 7 and 8 for the purpose of conducting licentiate examinations. Twenty-seven candidates who had completed their practical experience requirements were examined at this meeting. This was the first time in nearly thirty years that the Board has not offered examinations in written subjects to pharmacy college graduates who have not completed at least one year of practical experience. Fourteen of the candidates who were examined at this meeting were graduated from the Division of Pharmacy at South Dakota State College on June 5, 1961. The other thirteen had been examined in written subjects following graduation in former years and had not completed their one year, or more, of experience to qualify them for licensure as registered pharmacists. The names of the pharmacists registered at this meeting will be published in the 1961 proceedings.

It has been the policy of the Board to enforce the laws pertaining to Pharmacy in the interest of public health to the best of our ability.

I want to compliment the pharmacists of the state for the fine way they have been conducting themselves businesswise and professionally.

In closing, I wish to thank the co-members of the Board and our Secretary for the pleasure I have had working with them the past months, as President of the Board.

Respectfully submitted,
Roger C. Eastman
President

REPORT OF THE INSPECTOR OF THE BOARD OF PHARMACY

I do not like the idea of saying that I have made a lot of inspections. I have kept myself busy visiting drug stores when time permitted. The State Board of Pharmacy adopted an inspection form for all drug stores. A report has been made on all but three. It was well accepted by pharmacists.

In addition I have ducked in and out of grain elevators, feed stores, produce stations, hardware, groceries, dime stores, cafes, bars, truck stops, etc. It's taken me into practically every city, town and out of the way place in the state.

A number of peddlers have been caught. If you know of anyone selling in your area, kindly let Bliss or myself know. They will be contacted.

In many hardware stores I've taken off sale any mouse seed containing strychnine, informing them it's strictly a drug store item and a class "A" poison. Many have had Cyanogas. When I get through telling them of the hazards connected with cyanides they are ready to quit. Many places have arsenicals such as lead arsenate drench, coccidiosis remedies, crab grass killers, etc., and nicotine such as roost and perch paints. They either discontinue its sale or buy a poison license and sell as such. Many druggists have asked me for a list of poisons to register. Usually the druggists do a nice job of registering their poisons and exempt narcotics. In some instances they are registering Warfarin; to me this is being professional.

Mr. Glenn Velau, my predecessor, worked long and hard getting restricted drug areas set up. Some day I hope you will have a restricted poison section. I know it isn't easy as we do like to make companion sales — yet, we do not display epsom salts and toilet paper together. Remember, self-service merchandising belongs to every merchant with no title attached to professional service such as you enjoy as a pharmacist. The pharmacist can preserve and get additions to his restricted drug area by handling these products of a dangerous nature to human health in a professional manner.

Generally I find violators very cooperative, yet there are those that call us a monopolistic group with no concern for public health.

I know you are going to do a good job, and yet, as President Kennedy has often said in his campaign, "I believe we can do better." Let our laws, rules and regulations mean something to us — it will pay in profit."

I have attended all Board and Executive Committee meetings this year. I'm indeed grateful to Bliss Wilson, the Board members, Executive Committee and the College of Pharmacy for the help they have given me the past year. Thanks for accepting me so well and should it be your desire to keep me on, I hope to see you oftener this coming year. It's nice to be associated with such understanding people.

Respectfully submitted,
Harry M. Lee

REPORT OF THE COLLEGE OF PHARMACY COMMITTEE

Mr. President, and Members of the South Dakota Pharmaceutical Association:

The College of Pharmacy Committee, consisting of M. Lloyd Jones, James F. Rogers and John F. Nelson, Chairman, submit the following report for 1960-61.

The five-year curriculum for the B.S. degree in Pharmacy began in September, 1960. All Colleges of Pharmacy in the United States are now on the five-year program.

It is quite evident that there is a shortage of pharmacists in the entire United States and the demand for graduates for the Division of Pharmacy has again far exceeded the supply. The Division of Pharmacy is doing its part to help relieve this shortage not only on a local basis but on a national basis. However, the Division needs help in recruiting qualified high school seniors for the profession of pharmacy. This is where every pharmacist in South Dakota can be of immeasurable assistance to the Division of Pharmacy and to yourselves in contacting seniors and interesting them in our profession. Pharmacy has much to offer both young men and young ladies. We must keep our college enrollment at the present level, or higher, so that the shortage of pharmacists does not become more acute. If you need a college catalog or literature, or have any questions, please contact the Division of Pharmacy. It would also be of help if names of interested seniors could be sent to the Division. Complete information could then be mailed to them. It is going to take active recruiting by all of us to keep the ranks of our profession supplied with qualified pharmacists. We know we can count on you to do your part.

A college education costs considerably more today than it did ten years ago. Many more applications for scholarships have been received this year

than there are scholarships available. The Division of Pharmacy needs more scholarships for students in all classes from entering Freshmen students to Senior students. The College of Pharmacy Committee hopes that this year some pharmacists interested in helping a deserving pharmacy student will establish a scholarship. This can be done by contacting the Dean of Pharmacy.

The South Dakota Board of Pharmacy and the South Dakota Pharmaceutical Association have for many years each given a tuition scholarship to a worthy entering pharmacy student. We recommend that these two scholarships be continued.

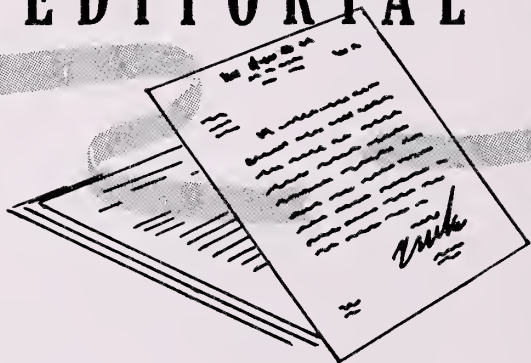
Dr. Harold Bailey, who has been on the staff of the Division of Pharmacy for the past ten years, is now Dean of Academic Affairs for South Dakota State College. We regret losing the services of Dr. Bailey but wish to congratulate him on his promotion. He will still spend one-third time as a member of the staff of the Division of Pharmacy and will be responsible for the Dental-Pharmacy research program. Mr. Stanley Shaw, who expects to receive his Ph.D. degree from Purdue University in August, will take over the teaching duties of Dr. Bailey. The remainder of the staff for the 1961-62 year will be the same as it was last year.

Dr. Guilford C. Gross, head of the Pharmacology Department, will take over the duties as Editor of the "Pharmaceutical Section" of the "South Dakota Journal of Medicine and Pharmacy" on July 1. Dr. Gross has been on the staff of the Division since 1940 and is well qualified in every respect. If you have any news items, please send them to Dr. Gross.

The Division of Pharmacy was inspected for re-accreditation on May 1 and 2 by Dr. Melvin Green, Director of Educational Relations for the American Council on Pharmaceutical Education, Dr. Joseph Burt, Dean of the College of Pharmacy of the University of Nebraska, and Roger Eastman, the President of the South Dakota Board of Pharmacy. A report of the inspection will not be available until sometime the latter part of June.

At the last session of the Legislature, an appropriation of \$1,000,000 was made for a new Science Building at South Dakota State College. It was hoped that the appropriation would have been more than the \$1,000,000 so that the entire Division of Pharmacy could have been moved into the new building. As it is now, the Department of Pharmaceutical Chemistry will be assigned approximately 8,500 square feet of space in the new building. A joint Pharmacy-Chemistry library will also be established and certain other facilities will be shared with the Department of Chemistry. The remainder of the Division of Pharmacy will remain where it is until an appropriation for a new wing to the new addition can be secured from a future Legislature. The additional space assigned to Pharmacy is needed and will provide some facilities not now available.

EDITORIAL PAGE



MAIL-ORDER PRESCRIPTIONS

The July 1961 issue of **Spiegel Briefs**, a four page flyer of the giant Chicago mail-order firm, promotes the "Spiegel Non-Profit Prescription Drug Foundation." The "Special Health Edition" (as it is called) declares that this "Non-Profit Foundation Saves Up to 40% on Prescription Drugs."

The promotional literature announces that "to help you cut the cost of keeping well, a new benefit has been added to the famous Budget Power Plan. Now, as a group numbering millions of families, Budget Power Plan members can do what no individual can do — beat the high cost of medication."

The Spiegel Prescription Drug Department is advertised as being located in Hammond, Indiana (Box 992), while the main office is at 1061 West 35th Street, Chicago 9, Illinois. Anthony A. Indovina has been named "chief" Spiegel pharmacist.

The July 15th issue of **Forbes** features an article entitled "The Medicine Man: A Wizard at the Art of Credit Merchandising, Spiegel Can Sell Goods 'At Cost' and Still Make Money on Them." The **Forbes** article explains that "Spiegel's operating philosophy causes some competitors to mutter darkly that the company is really a small loan business in disguise. Assuming that Spiegel fills its prescriptions at prices that yield not a penny

of profit, it will still fill them for credit customers only. Last year credit customers accounted for some 85% of Spiegel's \$268.9 million sales. They paid a staggering \$39.7 million in credit service charges — thereby providing, the company estimates, 55% of earnings before interest and income taxes."

Another article in the June 1961 issue of **Fortune** magazine entitled "The Monster Spiegel Keeps Keeps Spiegel" points up the "hidden" costs of those who might fall for the Spiegel plan, and discusses the devices Spiegel uses in coaxing its customers to make expenditures which will be subject to profitable credit charges. You will find it extremely worthwhile to read both the **Fortune** and **Forbes** articles about Spiegel.

APhA has dispatched letters to the four directors of the Spiegel Foundation, calling their attention to the public health hazards associated with any mail-order prescription operation.

Several State Boards of Pharmacy have already issued cease and desist orders to Spiegel.

IN ENGLAND AND CANADA . . . THE PROFESSIONAL SERVICES CONCEPT

In the light of the present attacks on pharmacy by the Justice Department, and the misunderstanding by Government and pub-

lic alike of the professional service rendered by pharmacists, the following editorials from Great Britain and Canada should be of particular interest.

GREAT BRITAIN

Following an open debate on the floor of the British Parliament and queries by the British Minister of Health on the cost of prescriptions, **The Chemist and Druggist** (Great Britain) for March 18, 1961, features an editorial "Counter Sale or Professional Service?", which reads in part:

"If the (British) Minister of Health cannot differentiate between the dispensing of a prescription and the assembling of an ordinary order for proprietary medicines, it is time leaders in pharmacy took steps to remedy his shortcoming, and his recent utterances suggest that the process of education should begin forthwith."

"When a pharmacist dispenses a prescription he undertakes many unseen responsibilities that are absent in most over-the-counter sales. As stated in *The Art of Dispensing*, 'a dispenser of a prescription occupies a unique position of trust and confidence as an intermediary between prescriber and patient, and nothing should be done that might undermine that position.'

"Unfortunately the public image of the pharmacist is at present entirely inadequate, and even in Parliament, where a higher standard of knowledge might be expected, there seems to be a lack of real appreciation of pharmaceutical principles. Even the presence there of a secretary of the Pharmaceutical Society (of Great Britain, Sir Hugh Linstead) does not appear to have remedied the situation. Failing that, it becomes the responsibility of members of the Council of the Society and of the Executive of the National Pharmaceutical Union to make sure, by continuous hammering home of the subject, that the Minister is made aware of pharmacists' problems."

CANADA

While the Canadian Pharmaceutical Association is preparing briefs for the Royal Canadian Commission on Health Matters, a reply to the Canadian Restrictive Trade Practices Commission, and a position paper for pharmacy for the Royal Canadian Commission on Government Organization, **The Bul-**

letin of the Ontario College of Pharmacy (Canada) for March 1961 includes the following note by G. W. Fairley:

"It is a constant source of irritation to see many of our pharmaceutical manufacturers and some of our publications refer to the 'retail price of prescriptions.' There is no such animal — Prescriptions represent the result of a commodity, the drug plus the very important ingredient, the professional service of the Pharmacist which precludes the assigning of any such figure as a 'retail price.' Professional service is offered by professional individuals who must reserve the right to establish their own professional fees for service. Prescriptions, by law, can be dispensed only by certain licensed and qualified individuals and this must preclude any attempt to label the charge for this health service as a 'retail price.'

"A story was related to us by a pharmacist who indicated that on occasion physicians will call and ask the 'retail price for such and such a prescription drug'. This pharmacist does not hesitate one second in informing the physician that prescriptions have no 'retail price' and to acquaint him with his professional responsibility.

"This should and must be a practice that all pharmacists implement and of which wholesalers and manufacturers should take cognizance."

TELL OUR STORY DURING NATIONAL PHARMACY WEEK, OCTOBER 1-7, 1961 . . . AS WELL AS YEAR-ROUND

Federal District Judge Louis E. Goodman stated during the San Francisco antitrust trial that he didn't see that the pharmacist was any different than any other merchant, and that the sale of soap by a druggist was no different than dispensing a prescription.

Recent Congressional hearings have led the public to think that a prescription is nothing more than an ordinary commodity, like groceries or hardware.

Critics ask why it takes so long and costs so much to dump a few pills from one bottle into another and hand them out.

The American Pharmaceutical Association has a variety of answers to these questions and criticisms. They have been compiled for your use in a year-round public relations pro-

gram. The material is available, but it cannot do any good until you take it and put it to work in your own community.

This material to help you tell pharmacy's story is found in the 1961-62 APhA Public Relations Kit, developed in conjunction with National Pharmacy Week. Addresses, radio and TV spots and interviews, newspaper editorials, news stories and ad mats, promotional pieces on pharmacy careers and science fairs, as well as governmental proclamations and information on other available material for a year-round public relations program are all contained in this compact and attractive package. This kit is available at the nominal charge of \$3.00 from the American Pharmaceutical Association, 2215 Constitution Avenue, N. W., Washington 7, D. C.

Two main themes are stressed in the kit —

- * professional services rendered by the pharmacist — enumerating and discussing the various steps taken by the pharmacist in compounding or dispensing a prescription — relating all of it to the patient's safety and health.
- * the pharmacy as a health center — describing the information and materials available in the pharmacy.

Six outstanding and original cartoon advertisements are featured in this year's public relations kit. These eye-catching illustrations portray and explain six phases of professional service rendered by the pharmacist in dispensing a prescription. They come in the form of ad mats as well as reproduction proofs and have been designed for use individually or in any combination on a year-round basis.

Another important feature is the new address, "Behind the Prescription Counter." This 15-minute talk is written in the vernacular of the public and is a thorough discussion of the necessary steps used in dispensing a prescription. The ramifications of each step are explained and amplified to show direct benefit to the patient from every step taken.

Three editorials have been included for use

by newspapers covering important aspects of the professional services rendered by pharmacists. One explains why a prescription can never be "trade" merchandise. A news story and an editor's fact sheet are also included for complete National Pharmacy Week news coverage.

Two interviews are included for radio and TV use. One is a five-minute interview dealing with the dangers of mail-order prescription operations; the second deals with the professional services rendered by a pharmacist in the dispensing of a prescription.

New and original spots have been written for use by local radio and TV stations. These vary in length from 10 to 60 seconds and range in subject from professional services rendered — to pharmacy careers — to polio and poison prevention.

A telop for National Pharmacy Week will be mailed to the 650 commercial and 67 non-commercial TV stations in plenty of time to be scheduled for showing the week of October 1-7.

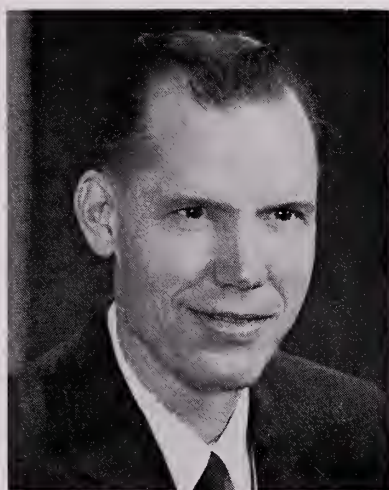
The APhA display contest will again be a prominent feature of National Pharmacy Week. Pharmacies, colleges, associations, hospitals and clinics will compete for awards in four categories for the best displays. Pharmacists are urged to send for the official entry form and free window streamer from the APhA, 2215 Constitution Avenue, N. W., Washington 7, D. C.

National Pharmacy Week is the opportunity to gain the community support and cooperation that is so necessary if we are to win out over those who want us out of the way as professional people. It is sincerely hoped that all pharmacists will join together in presenting the "Pharmacy Story." It should be emphasized, however, that a one-shot program is not sufficient. The program must be carried out, added to and built upon on a year-round basis.

The necessary material is ready. It awaits only community implementation. The rest is up to you.

PRESIDENT'S PAGE

Rx



What are we here for? I am sure that most of us have asked ourselves that question at one time or another. Perhaps I should rephrase the question and ask, "What are we in pharmacy for?" If we reflect for a bit we realize that there is only one answer to that question; we are here to serve the health need of our community. Most drug stores represent a combination of a trade and a profession. We conduct our many sundry departments much as any merchant would; in the prescription room we practice our profession. Modern merchandising being what it is, it is very easy to let this merchandising overshadow the professional aspects of our store. Yet it is this professional aspect that sets us apart from the commercialism of the rest of the business world. Let us cherish the professional aspect of our stores, set it up on a pedestal, and make it the central, dominant theme of our operation. It is only by practicing our profession with skill, faith and integrity that we can justify being here in pharmacy.

Sincerely,
Philip Case

PHARMACEUTICAL PAPER



WANTED
Pharmacists
who will
Defend The
Profession

TWENTY-SEVEN RECEIVE REGISTRATION CERTIFICATES

Twenty seven were granted licenses to practice pharmacy in South Dakota according to a report by the State Board of Pharmacy.

The newly registered pharmacists are: **John C. Bartholomew** (3420), **R. Thomas Bartholomew** (3421), **Sr. Mary Frances Beecham** (3422), **Marlyn Christensen** (3423), **Richard Daugherty** (3424), **Dennis A. Dingman** (3425), **Mrs. Annette Feldhaus** (3426), **Cyril B. Frick** (3427), **James G. Hanson** (3428), **Robert F. Knapp** (3429), **John H. Koopman** (3430), **James T. Lowe** (3431), **Donald W. Mahannah** (3432), **Richard D. Manthei** (3433), **Sharon Rae Mix** (3434), **Richard D. Mulder** (3435), **Mrs. Kay Pearson** (3436), **Edward J. Pelant** (3437), **Robert J. Reutzel** (3438), **Keith H. Risch** (3439), **Edward Schlachter** (3440), **Larry C. Shannon** (3441),

James C. Sheets (3442), **Tyrone L. Steen** (3443), **Dale A. Stroschein** (3444), **Maurice V. Tobin** (3445), **Larry A. Torguson** (3446).

All were registered by examinations given at Brookings, June 6, 7, 8.

STATE COLLEGE STAFF MEMBER TAKES SABBATICAL LEAVE

Dr. Kenneth Redman, Professor of Pharmacognosy, S. D. State College is taking a nine-month sabbatical leave from his academic duties to observe and study the pharmaceutical industry in Mexico. Dr. Redman's principal interest is in the drugs of botanical origin that are cultivated and produced there. He also plans to devote some time to work on a textbook in the field of agricultural pharmacy. Dr. Redman took his leave on September 1 and will return to the campus June 1, 1962. He is accompanied by **Mrs. Redman**.

EITREIM TAKES POSITION WITH LILLY

Richard D. Eitreim, a registered pharmacist in South Dakota and Minnesota, has joined Eli Lilly and Com-

pany's sales force in Minneapolis. He succeeds **James L. Ward**, who has been transferred to Fort Worth, Texas, announces **Alan L. Cornwell**, manager of the pharmaceutical firm's Minneapolis District.

Born in South Dakota, **Eitreim** was graduated from Garretson High School in 1949. In 1953 he received a Bachelor of Science degree in pharmacy from South Dakota State College.

Prior to joining Lilly, **Eitreim** was employed as a pharmacist in Sioux Falls, South Dakota.

STATE COLLEGE STAFF MEMBER ATTENDS CONFERENCE

Dr. Norval E. Webb, Associate Professor of Pharmacy, S. D. State College, attended the Conference of Pharmacy Teachers held at Madison, Wis., July 9-15. Approximately seventy schools of pharmacy over the nation were represented at the 7 day meeting. The conference was one in an annual series which deal with the several disciplines in the pharmacy curriculum. It was concerned primarily with curricular

matters and course contents of pharmacy courses. These meetings are held under the auspices of the American Association of Colleges of Pharmacy with the support of the American Foundation for Pharmaceutical Education.

INDUSTRY SPENDS RECORD AMOUNT FOR RESEARCH

A record \$206.5 million investment in research was made last year by drug manufacturers in the search of new cures for human ailments. The new high was reached despite a general down-turn in profits, according to the annual survey on research and development made by the Pharmaceutical Manufacturers Association. The 1959 figure was \$197 million.

Research expenditures this year will rise to about \$227 million for human drugs, the trade association reported. This year's sum is a 276 percent increase over 1951, when companies reported spending \$60 million.

"This represents a \$16.7 million average annual increase in industry expenditures for research," the report said. "These figures are in marked contrast to the rate of growth in output by

the United States economy: gross national product in the same period increased only 52 percent from \$329 billion to a current rate of \$500 billion."

An additional \$5.4 million was spent in 1960 for research and development of veterinary drug products, and this figure is expected to rise during 1961 to \$5.8 million.

The rapidly expanding research activity is "an index to the highly competitive search for breakthrough discoveries to combat many common ailments — notably cancer and cardiovascular disease," said Dr. Austin Smith, P.M.A. president.

More than ten percent of last year's funds went into research outside company laboratories. The industry spent about \$21 million to support studies in medical schools, hospitals, and other research institutions.

A measure of the importance attached to research by the industry is the composite total of its expenditures since 1948, the first year in which it spent as much as \$30 million for this kind of activity. Through 1960 the total comes to more than \$1¼ billion.

The published annual reports for eleven major drug firms showed a net increase

in sales but a drop in net profits of 3.6% for 1960. Despite the decline in profits, they plowed back 7.7% of income into research. Dr. Smith said, "There is no evidence to indicate that the profit experience of the rest of the industry was any different."

AphA SCHEDULES MEETINGS

The annual meetings of the American Pharmaceutical Association have been scheduled through 1964.

Las Vegas, Nevada, will be the site of the 1962 annual meeting, the week of March 25-30. All meetings will be held at the Las Vegas Convention Center.

The Americana in Bal Harbour, Miami Beach, Florida, will host the 1963 annual APhA meeting the week of May 12-17.

Philadelphia was selected as the site for the 1964 annual meeting with the Sheraton and the Bellevue-Stratford hotels as co-headquarters. The 1964 annual meeting is scheduled for the week of May 3-8, so that members attending the APhA annual meeting will also be able to visit the New York World's Fair opening the previous week.

AMERICAN CANCER SOCIETY SCIENTIFIC SESSION PROGRAM

Biltmore Hotel, New York

October 22-24, 1961

THE PHYSICIAN AND THE TOTAL CARE OF THE CANCER PATIENT

Monday, October 23, 1961

Morning Session — 9:00-12:00 Noon

Decisions in the Early Care of the Cancer Patient

CHAIRMAN: Dr. I. S. Ravdin
University of Pennsylvania
Philadelphia, Pennsylvania

Uterus

Dr. John L. McKelvey
University of Minnesota
Minneapolis, Minnesota

Colon & Rectum

Dr. J. Englebert Dunphy
University of Oregon
Portland, Oregon

Lung

Dr. Alton Ochsner
Ochsner Foundation Clinic
New Orleans, Louisiana

Breast

Dr. John W. Cline
San Francisco, California

Head and Neck

Dr. Edgar L. Frazell
New York, New York

Leukemia & Lymphomas

Dr. Lloyd F. Craver
New York, New York

The Radiologist and the Care of Early Cancer

Dr. Thomas Carlile
The Mason Clinic
Seattle, Washington

Monday, October 23, 1961

Afternoon Session — 1:30-4:30 P.M.

A. Counselling the Cancer Patient

CHAIRMAN: Dr. Murray M. Copeland
University of Texas
Houston, Texas

General Practitioner's Opinion

Dr. John G. Walsh
American Academy of General Practice
Kansas City, Missouri

Surgeon's Opinion

Dr. George P. Pack
Pack Medal Group
New York, New York

Radiologist's Opinion

Dr. Eugene P. Pendergrass
University of Pennsylvania
Philadelphia, Pennsylvania

Internist's Opinion

Dr. Samuel G. Taylor, III
Presbyterian — St. Luke's Hospital
Chicago, Illinois

B. What the Cancer Patient Should be Told About
His Diagnosis and Prognosis

Psychiatrist's Opinion

Dr. William Greene
University of Rochester
Rochester, New York

Psychiatrist's Opinion

Dr. Donald Oken
Michael Reese Hospital and Medical Center
Chicago, Illinois

Surgeon's Opinion

Dr. Owen H. Wangenstein
University of Minnesota
Minneapolis, Minnesota

Pastor's Opinion

Dr. Granger E. Westberg
University of Chicago
Chicago, Illinois

Tuesday, October 24, 1961

Morning Session — 9:00-12:00 Noon

Care of the Advanced Cancer Patient

CHAIRMAN: Dr. Warren H. Cole
University of Illinois
Chicago, Illinois

Role of Radical Surgery

Dr. Eugene M. Bricker
St. Louis, Missouri

Role of Chemotherapy — Systemic

Dr. Anthony R. Curreri
University of Wisconsin
Madison, Wisconsin

Role of Chemotherapy — Perfusion

Dr. John S. Stehlin, Jr.
University of Texas
Houston, Texas

Role of Radiation

Dr. James J. Nickson
Memorial Center for Cancer and Allied
Diseases
New York, New York

Nutritional Care in Advanced Cancer

Dr. Donald M. Watkin
Pan American Health Organization
Mexico 6, D. F.

Pain Control

Dr. Jay J. Jacoby
Marquette University
Milwaukee, Wisconsin

Rationale for Aggressive and Extraordinary

Means of Treatment of Advanced Cancer

Dr. David A. Karnofsky
Memorial Center for Cancer and Allied
Diseases
New York, New York

Tuesday, October 24, 1961

Afternoon Session — 1:00-3:30 P.M.

Society's Role in Caring for the Cancer Patient

CHAIRMAN: Dr. John S. Hirschboeck
Marquette University
Milwaukee, Wisconsin

The Human Side of Caring for the Cancer Patient

Mr. Richard L. Evans
Salt Lake City, Utah

Financial Cost of Caring for the Cancer Patient

Dr. Louis M. Orr
Orlando, Florida

The Role of Supporting Services in Caring for the Cancer Patient

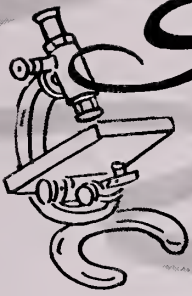
Miss Edna Nicholson
Institute of Medicine
Chicago, Illinois

Treatment of Cancer in Home Care Programs

Dr. Isadore Rassman
Montefiore Hospital
New York, New York

Service Program of the American Cancer Society

Dr. John F. King
American Cancer Society, Inc.
New York, New York



Scientific

PAPER

SURGICAL TECHNIQS IN THE DIAGNOSIS OF INTRATHORACIC DISEASE*

Thomas W. Shields, M.D.

Associate in Surgery, Northwestern University Medical School.

The chest roentgenogram is an indispensable diagnostic procedure in the study of pulmonary diseases. However, the roentgenogram is unable to give an unequivocal histologic or bacteriologic diagnosis. This role falls to other diagnostic modalities. The surgical procedures commonly employed to obtain material for either histologic or bacteriologic study are bronchoscopy, scalene node biopsy, direct lung or pleural biopsy, needle biopsy of the lung or pleura, and exploratory thoracotomy. There are advantages and disadvantages to some of these technics as well as indications and contraindications for their use. The appropriate and timely application of one or more of these procedures is frequently of invaluable aid in the study of the patient with intrathoracic disease.

BRONCHOSCOPY

Bronchoscopy is a safe and simple procedure for the direct inspection of the tracheobronchial tree and enables the thoracic surgeon to obtain prognostic as well as diagnostic information. It is especially valuable in the study of patients suspected of having malignant disease. It is also utilized in the study of patients with benign tumors, lung abscesses, unexplained hemoptysis, tuberculosis and a variety of chronic pulmonary infections.

The usefulness of bronchoscopy is increased greatly by bronchoscopic telescopes to visualize certain lobar and segmental orifices that cannot be viewed by direct vision. Cytologic smears obtained at the time of bronchoscopy may be valuable in securing a definitive diagnosis when the lesion cannot be seen directly.

*From the Departments of Surgery, Northwestern University Medical School, Passavant Memorial Hospital, and Veterans Administration Research Hospital, Chicago, Illinois.

Presented at the Aberdeen District Medical Society, April 5, 1961.

Bronchoscopy is utilized most frequently in the diagnostic evaluation of the patients suspected of having a bronchogenic carcinoma. In the older literature, it was reported that 75 to 80 per cent of all cases of bronchogenic carcinoma could be diagnosed by this procedure. However, in our own experience a much smaller figure, 30 to 40 per cent, is more correct. The reports of Ochsner and associates,¹³ Umiker,²⁴ and others confirm the validity of this lower figure which corresponds to the incidence of carcinoma arising in the central portions of the bronchial tree.

In addition to the direct visualization of a tumor and the removal of a biopsy for histologic study, the bronchoscopic examination of patients with suspected cancer is of value for presumptive evidence of tumor as well as in the preoperative assessment of resectability of the lesion. Such factors as widening and fixation of the carina, fixation of the bronchus, angulation, retraction as well as other findings give supportive evidence for the diagnosis of an underlying tumor. As recently emphasized by Benedict,² these same factors are of value in predicting non-resectability of the tumor by the bronchoscopic examination. This author was able to assess correctly inoperability in 98.6 per cent of 147 patients by the interpretation of these bronchoscopic findings. Even when the main stem carina is bronchoscopically negative, biopsy of this structure may reveal the presence of submucosal lymphatic extension of a tumor. Raven and associates¹⁵ reported an incidence of 12 per cent, though in our own work we have not been able to confirm this figure. A positive biopsy would naturally rule out the possibility of a successful resection.

SCALENE NODE BIOPSY

Another diagnostic technic which often provides not only diagnostic information but also may give information as to operability in a patient with lung cancer is the scalene node biopsy. Daniels⁶ first reported the biopsy of nonpalpable nodes in the supraclavicular (prescalene) area in 1949. Since then the usefulness of this biopsy procedure has been reported repeatedly in the study of patients with chest disease. The incidence of positive diagnoses, of course, is dependent upon the underlying disease process. Numerous studies^{1, 8, 9, 20, 23} have appeared in an at-

tempt to assess the merit of the procedure in the various diseases encountered. In unselected series, a positive yield of 20 to 30 per cent is generally reported. In selected diseases, such as sarcoidosis, the results may be as high as 80 to 90 per cent diagnostic; the negative biopsies in this disease occur usually in those patients without demonstrable hilar lymphadenopathy on the chest roentgenogram. In contrast, the use of this procedure has been of little value in confirming a tentative diagnosis of tuberculosis nor is it particularly of value in patients with indeterminate chest lesions.

The efficacy of the biopsy of nonpalpable scalene nodes in the study of patients with bronchogenic carcinoma has received the most attention. Unfortunately, such studies as noted recently by Scannell and Wilkins¹⁷ suffer from inherent difficulty of being able to define accurately the palpability of lymph nodes for as soon as palpable nodes are included the overall incidence of metastasis in a series is increased. The inclusion of clinically inoperable, as well as clinically operable, patients with carcinoma of the lung also increases the incidence of metastatic disease found. Removal of lymph nodes deep to the thoracic inlet likewise confuses the issue even more. Thus in the literature metastatic involvement of nonpalpable scalene nodes in patients with bronchogenic carcinoma has been reported to be as low as 6.3 per cent²¹ and as high as 48.8 per cent.¹ In our own continuing experience in patients with clinically operable carcinoma, an incidence of approximately 6 to 10 per cent appears to be the rule. This is in agreement with the work of Seghers et al.¹⁸ As a result of the low yield, despite the apparent innocuousness of the procedure, we do not employ this biopsy technic routinely but reserve its use in those patients who are otherwise clinically operable but demonstrate enlarged hilar shadows or enlarged superior mediastinal nodes on the chest roentgenogram or have an undifferentiated small cell carcinoma as determined by bronchoscopic biopsy or cytologic smear.

Once metastatic involvement is determined to be present in the scalene nodes, most investigators are in agreement that this denotes inoperability. Studies by the author¹⁹ and recently by Pinkers and Lawrence¹⁴ have shown that the mean life expectancy

following a positive biopsy was 3.3 to 3.6 months with the majority of patients surviving 3 months or less. Such results certainly tend to dampen any enthusiastic surgical approach in such patients except under unduly mitigating circumstances.

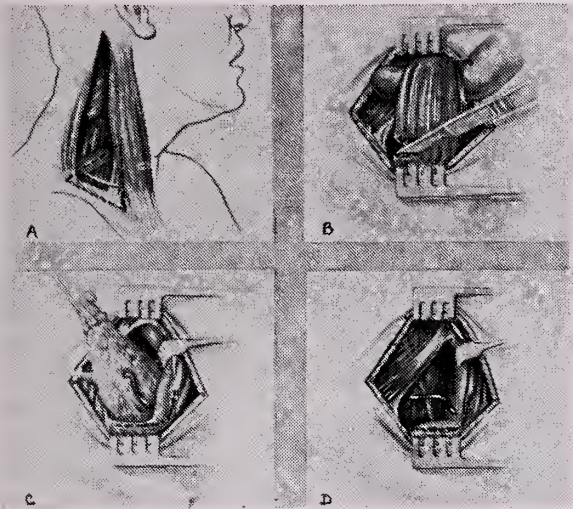


Figure 1.

Scalene node biopsy: A, location of incision and related structures; B, division of lateral head of sternocleidomastoid muscle; C, removal of scalene fat pad and contained nodes; D, surgical field after removal of fat pad and fibro-fatty tissue medial to anterior scalene muscle. (by permission of authors: T. W. Shields and E. Shocket, *Preoperative Evaluation of Patients with Clinically Resectable Bronchogenic Carcinoma*, A.M.A. Arch. Surg. 76: 707, 1958).

The technic of a scalene node biopsy need not be reiterated (Fig. 1). It is readily carried out under local anesthesia and requires only a short period of operating time. Care must be exercised to avoid injury to important vascular and nerve structures and in particular damage to the thoracic duct on the left side must be avoided. It is to be emphasized that in addition to the fat overlying the anterior scalene muscle the tissues medial to the muscle and beneath the internal jugular vein should be removed as part of the operative specimen.

Various modifications of the original technic have been described. Harken and associates⁸ extended the exploration into the mediastinum. Recently Car lens³ has suggested the employment of mediastinoscopy as a method for inspection and biopsy of nodes in the superior mediastinum and reported its use in over 100 patients. Both of these procedures, however, should be reserved for unusual circumstances where it is imperative to

obtain a diagnosis without resorting to an exploratory thoracotomy.

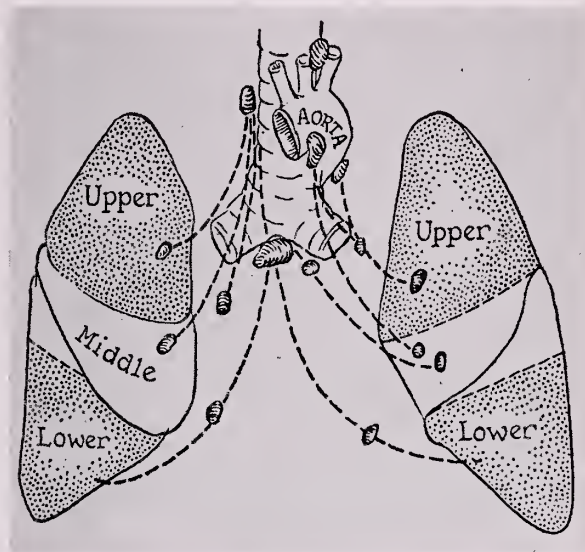


Figure 2.

Lymphatic drainage of the lungs (Rouviere, H.: *Anatomy of the Human Lymphatic System*, translated by M. J. Tobias, 1938, redrawn by permission of the publishers, Edwards Brothers, Inc., Ann Arbor, Mich.).

Not infrequently, the question arises as to which side should be biopsied. Though some doubt has been cast on the lymphatic drainage of the lungs as described by Rouviere (Fig. 2) we continue to biopsy the right side in those patients with disease in the right lung, the left side in those patients with disease in the upper third of the left lung, and bilateral biopsies with disease present in the lower two-thirds of the left lung. When there is only apparent mediastinal node enlargement or when there is diffuse bilateral pulmonary disease the right scalene biopsy only is done. However, in the study of diffuse lung disease, routine scalene node biopsy is not always of value. Excepting the patients who eventually are proved to have sarcoidosis, the yield of positive biopsies is only approximately 1 in 5. Despite an extensive history and physical, and gamut of laboratory investigations, the definitive diagnosis frequently remains obscure. In such clinical situations as open lung biopsy is a direct and eminently satisfactory method of obtaining tissue for diagnosis.

LUNG BIOPSY

A direct lung biopsy is a simple and relatively benign procedure. It was originally described by Klassen and associates¹⁰ in 1949.

It is carried out through a minor thoracotomy and may be performed under either general or local anesthesia with positive pressure breathing. The technique favored by us is a short intercostal incision centered over the maximum area of disease. If the disease is diffuse throughout both lungs, the 4th anterior interspace on the right is elected as the site of choice. Upon opening the pleura positive pressure is given, the lung is grasped and a wedge resection of lung tissue is then carried out with closure of the cut end of the lung with an over and over suture of suitable material. There is no attempt to approximate the intercostal muscle, the utilization of the pectoral muscles being sufficient to close the area (Fig. 3). Drainage has not been utilized in any of these patients in recent years and full expansion of the lung is usually seen on the routine chest roentgenogram within an hour or two following the operation. The morbidity and mortality, in our own experience²² as well as that of others, has been minimal.

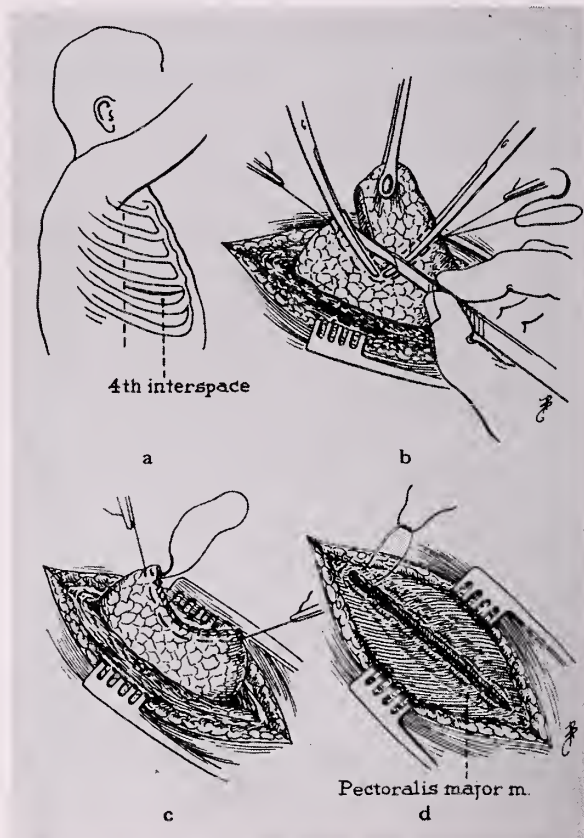


Figure 3.

Technique of lung biopsy: A, site of elective interspace incision in a patient with bilateral diffuse disease. Patient in supine position; B, after in-

cision is completed through parietal pleura, the site of lung biopsy is grasped with a Duval clamp and Carmalt clamps are placed for excision of the wedge. Continuous sutures are placed under the clamp before excision of the wedge; C, cut surface of the lung is oversewn with continuous sutures to control any bleeding or air leaks; D, intercostal incision is closed without pleural drainage. No attempt to close the intercostal muscle is made. Pectoral muscle reapproximated only. Then the subcutaneous and skin are closed in routine manner. (by permission of authors: T. W. Shields, and S. K. Sweany, Lung Biopsy, Surg., Gynec. & Obst., 110: 585, 1960).

In a series of over 50 biopsies, a definitive diagnosis was made in 92 per cent of the patients. The results were nondiagnostic in 3 patients and in one patient the diagnosis was proved to be wrong by subsequent study. In the patients in whom a definitive histologic diagnosis was made, the preoperative diagnosis was confirmed in 55 per cent. In the remaining 45 per cent the preoperative diagnosis was proved to be erroneous. Thus it may be appreciated readily that direct lung biopsy should be employed early in the investigation of patients with diffuse lung disease so appropriate therapy, if available, may be employed promptly. Though direct lung biopsy is a relatively simple procedure, some investigators have advocated needle biopsy of the lung rather than the direct biopsy. A recent report by Sabour and associates¹⁶ outlined the technique and presented their results in 137 cases. However, the needle biopsy of the lung in diffuse disease has not become a popular method of investigation.

NEEDLE BIOPSY OF LUNG AND PLEURA

Needle biopsy of the lung generally has its use restricted to the diagnosis of pulmonary disease in which a parenchymal lesion reveals fixation to or actual invasion into the chest wall; most specifically, peripheral carcinomas with chest wall invasion. The value of this method of study in such circumstances has been demonstrated recently by Levine and Cugell.¹¹ In their selected group, the needle biopsy was much more valuable than bronchoscopy, cytologic smear or scalene node biopsy in obtaining a definitive diagnosis.

Needle biopsy of the pleura also has been shown to be a highly successful procedure when appropriately applied. This is particularly the procedure of choice in patients with an etiologically undiagnosed pleural effusion. Mestitz and associates¹² reported an experience with the use of such a technique in a

series of 200 patients. They found it to be a simple and safe procedure, and permitted a tissue diagnosis in approximately 80 per cent of the patients with tuberculous effusions and 60 per cent of the patients with malignant effusions. Exclusion of patients with effusion who have heart failure or an acute pyogenic infection will substantially increase the incidence of positive biopsies in any given series.

Needle biopsy may be carried out by a number of technics and with several different types of needles. Accurate roentgen and fluoroscopic control is essential to obtain a proper specimen and to avoid untoward complications. The Vim-Silverman biopsy needle has been most commonly employed but recently a blunt ended needle developed by Cope⁴ has become popular (Fig. 4).

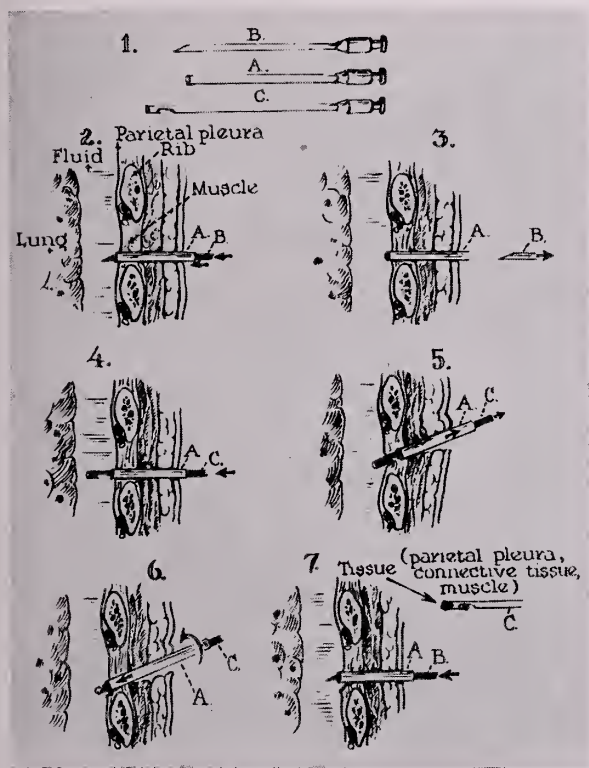


Figure 4.

Cope needle and schematic presentation of technic for pleural biopsy in patient with pleural effusion. (Reproduced by permission of the authors: H. Levine and D. W. Cugell, *The Value of Blunt End Needle Biopsy of Pleura and Rib in Thoracic Disease*, to be published).

In certain patients with effusion in whom the biopsy is not diagnostic, a limited exploratory thoracotomy with direct pleural biopsy may be of value. This is, of course, only one of the situations in which an ex-

ploratory thoracotomy may be employed.

EXPLORATORY THORACOTOMY

An exploratory thoracotomy for diagnosis and treatment should be resorted to promptly if the other methods of investigation have failed to establish a definitive diagnosis in patients with intrathoracic disease. The thoracotomy may be of a limited or of a standard type depending upon the indications in a given patient.

The direct lung biopsy in diffuse parenchymal disease and the direct pleural biopsy are examples of a limited thoracotomy. Recently Goswitz and Klassen⁷ have advocated a limited anterior thoracotomy for the biopsy of undiagnosed anterior mediastinal lymph adenopathy and occasionally a limited posterior thoracotomy for similar lesions. The advantage of this limited procedure was demonstrated by the results obtained by these authors in 20 patients in whom the diagnosis of mediastinal lymphoma remained uncertain. In only 7 was the diagnosis of lymphoma proved to be correct, whereas in the other 13 the lesion was found to be benign.

Most often, however, a standard thoracotomy is indicated for exploration. Especially in the patient with a peripheral solitary (coin) lesion or some other parenchymal lesion suspected but not proved to be carcinoma. In patients with a coin lesion the diagnostic thoracotomy is resorted to promptly following roentgenographic and minimal bacteriologic study, i.e., sputum studies and skin testing. Only if a large central nidus or laminar layers of calcium are demonstrated in the lesion by laminography or acid fast organisms are seen on sputum examination is exploration denied. It is to be mentioned that no extensive x-ray search for possible primary tumor elsewhere is made unless the patient's symptomatology or findings suggest specific organ system involvement.

In patients suspected of having a bronchogenic cancer approximately 25 per cent will remain undiagnosed until thoracotomy. Often the most favorable lesions fall in this category and to await positive proof of tumor before recommendation of exploration is contraindicated. The mortality and morbidity of exploration alone are minimal. If tumor is present, both the mortality and morbidity will be influenced by the extent of resection

as well as by the aggressiveness of an abortive attempt to remove a nonresectable tumor.

CONCLUSIONS AND SUMMARY

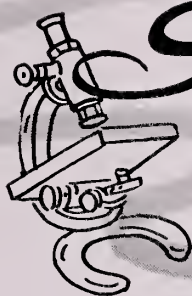
The technics that comprise the operative diagnostic armamentarium of the thoracic surgeon have been reviewed. These are bronchoscopy, scalene node biopsy, direct lung and pleural biopsy, needle biopsy and the exploratory thoracotomy. By the appropriate and timely employment of one or more of these procedures as well as the use of conventional or special bacteriologic and roentgenologic procedures an accurate diagnosis should be obtained in most patients with intrathoracic disease.

Not only are many of these procedures, such as the scalene node biopsy and bronchoscopic examination of diagnostic importance in various diseases, but they may also be of significance in the determination of the operability in patients with carcinoma of the lung. The direct lung biopsy and the other types of minor thoracotomy are best utilized in the diagnosis of diffuse pulmonary diseases or of mediastinal lymphadenopathies which are primarily medical in nature and are not amenable to a therapeutic surgical approach. On the other hand the formal major exploratory thoracotomy is to be employed in the diagnosis of those lesions in which surgical removal is the procedure of choice upon the establishment of the true nature of the pathologic process. The needle biopsy of either the lung or pleura is reserved for special clinical situations and is less frequently employed than the other modalities.

The early employment of one or more of these procedures, as well as the avoidance of those which will frequently add little to the management of a given patient with intrathoracic disease is to be highly recommended and a prolonged period of watchful waiting to let time establish the diagnosis is rarely indicated.

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Scientific

PAPER

WHIPLASH INJURIES*

Ralph M. Stuck, M.D.
Denver, Colorado

Forty years ago the term **railroad spine** was used to designate certain cases of low back injury, and a patient was considered a neurotic and a malingerer. It was not until Mixter and Barr¹ in 1934 demonstrated deranged lumbar discs in many of these patients and initiated the method of their surgical removal that the expression lost its meaning and use. Today the term **whiplash**² applied to certain cervical spine injuries has in the minds of many the connotation that **railroad spine** had in lumbar spine injuries.

It is my purpose to show that so-called "whiplash" and similar injuries do damage or destroy neck tissues and that this type of structural damage can be recognized and successfully treated.

The word **whiplash** means to crack like a whip with a lashing motion. Applied to the neck, it is usually defined as an **extreme flexion-extension injury**. Mechanical force probably accounts for most of the tissue damage. If the head or body is turned at the time of impact, force will be applied obliquely and compound the injury. Certainly the type and extent of the resulting tissue damage are determined by the direction and strength of the force applied. The term, whiplash injury, in no way defines the tissue alteration. The patient may suffer any pattern of injury from mild contusion or sprain to decapitation.

Injury following whiplash and similar accidents to the neck may be classified as follows:

* Presented at the 80th Annual Meeting of the South Dakota State Medical Association, May 16, 1961.

- A. Mild: Temporary pain in the neck, across the shoulders, up the back of the head, around the scapulae and in the arms.
- B. Moderate: Symptoms are more severe and more prolonged than A and may include subjective numbness and weakness of the shoulders, arms or hands.
- C. Severe: Symptoms persist in spite of all types of physiotherapy. In addition to the symptoms described in A and B, cerebral symptoms appear from involvement of the vertebral artery and the consequent reduction in the blood supply to the brain stem and cerebellum. With the discontinuance of physiotherapy, symptoms become aggravated.
- D. Very severe: Symptoms are similar to those in C, but, in addition, partial peripheral nerve paralysis and partial spinal cord paralysis may be present. Physiotherapy gives only temporary benefit.
- E. Extreme: Total spinal paralysis. Slight improvement occurs with the passage of time. Fracture-dislocation of the cervical spine may be present.
- F. Hopeless: Total permanent spinal cord paralysis below the site of injury with extreme fracture-dislocation.
- G. Terminal: Decapitation.

* * * *

Determination of the extent of the injury must be made through careful inquiry as to the type of injury and the onset and development of subjective and objective symptoms. If the subjective symptoms claimed by the patient are valid, most of them can be verified by physical examination. Such a subjective symptom as headache cannot be verified, but the possibility of its existence is logical if acute upper neck tenderness is found. Subjective pain in the neck is usually accompanied by muscle spasm and tenderness which can be identified by palpation, and this finding indicates contusion of superficial tissues, muscles, tendons, joints and periosteum. When the pain is intense, the spasm, pain and tenderness are not limited to the local area of injury in the neck but spread downward from the neck both anteriorly and posteriorly and out across both shoulders.

Any whiplash or similar force applied to the neck may produce disc structure damage

in varying degrees with such resulting differences in symptoms as these:

(1). If the disc structures have ruptured and in so doing compress the spinal cord, long tract signs such as sensory and motor paralysis below the level of the compression develop.

(2). If the disc structures rupture and compress the peripheral nerve roots, sensory and motor paralysis develops in the arms, shoulders and neck, the area depending on which nerve root or roots are compressed.³

(3). If, however, the disc structures are contused but not retropulsed, a different pattern of symptoms appears. In the past it was assumed that the annulus and the internal disc structures had no nerve supply. However, recent investigators⁴ have evidence that the **sinu-vertebral nerve**, a nerve composed of a branch of the corresponding sensory nerve root and nerve fibers from the sympathetic chain, supplies each lateral half of the annulus of the disc, for when it is injured or painfully stimulated, specific symptoms occur as a result of spasm of the muscles innervated from the dermatome that supplies it. Most of the muscles of the shoulder girdle, arms, neck, scapular area and even the diaphragm receive their nerve innervation from the nerve roots originating from the cervical and brachial plexuses. Following neck injury of sufficient severity to involve the annulus of the disc, the common complaint of pain in the region of the scapulae can now be understood to mean reflex painful muscle spasm from the damaged neck structures. The nerve supply of the muscles about the scapulae comes from the 5th, 6th and 7th cervical nerve roots. Electrical and mechanical stimulation of the corresponding annuli of these discs, the 3rd, 4th and 5th, not only refers pain to the scapular area but also results in spasm of the muscles whose nerve supply originates from the stimulated dermatome. Furthermore, the presence of spasm in these muscles can be verified by physical examination and electromyography. Painful spasm of these muscles resulting from isolated disc contusion can be relieved by injecting local anesthetic along the annulus of the traumatized disc. When a neck injury gives rise to suspicion of disc involvement, such involvement can be confirmed or denied by discography, a new technique to be explained later.

(4). A fourth of symptoms ordinarily difficult to evaluate and often mistakenly used to classify patients as neurotic include syncope, vertigo, nystagmus, unsteadiness, staggering, diplopia, dizziness, faintness, unilateral or bilateral prickling and numbness in the face, partial deafness, nausea and so-called migraine. Since these symptoms generally represent brain and brain stem involvement, their presence in association with cervical injury calls for an explanation of how the total intracranial structures can be involved in a neck injury. Reflex involvement of the vascular supply to the brain and cerebral concussion give diffuse neurological patterns of deficient cerebral functions and by their nature can usually be excluded from cerebral deficiency patterns due to neck injury. However, partial interference with the flow of blood through the vertebral arteries supplying the brain stem, cerebellum, the ears and most of the nuclei of the cranial nerves can produce all the symptoms listed and therefore presents a plausible explanation of the relationship between neck injury and these symptoms.

The effect of involvement of the vertebral arteries is well known in diseases and injury of the cervical spine. Barre, Gayral, Neuwirth and Sheehan, et al⁵ report on the symptoms of compression of vertebral arteries in spondylosis of the cervical spine. Ford⁶ in 1952 reports a case in which a congenital anomaly of the odontoid process and the laminal arch of the atlas allowed excessive motion with resulting vertebral artery compression which was followed by varying degrees of vertigo, dizziness, staggering and loss of consciousness. In cases of subluxation of the cervical spine, I have found similar symptoms — dizziness, staggering, unsteadiness and fainting. It is therefore logical to conclude that the symptoms described in this category are due to deficiency in the blood supply of the brain stem and cerebellum as a result of partial occlusion of the vertebral artery.

(5). The common neurotic or malingering symptoms are vague, inconsistent, irregular and almost impossible to explain physiologically or anatomically. A typically neurotic patient may complain of abdominal or chest symptoms with head motion or with other

painful stimuli applied to the neck and then speak of his agonizing pain with a smile, or he may insist he cannot move his head and neck but does so when his attention is distracted. Such complaints may usually be taken lightly, but one must remember that neurotic patients may also sustain severe neck injury.

* * * *

Ordinary x-rays of the cervical spine may demonstrate such evidence of neck injury as the following: (Fig. 1) straightening of the normal lordotic curve, muscle spasm; vertebral subluxation or disc narrowing, disc injury; gibbus, vertebral fracture and fracture-dislocation, spine injury.

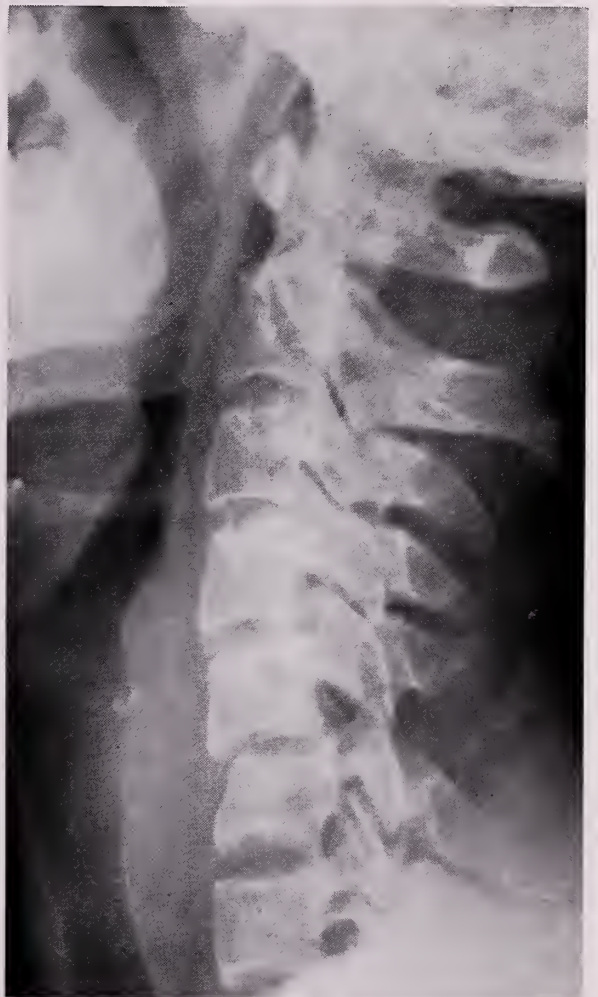


Fig. 1. X-ray of cervical spine revealing straightening of the lordotic curve, subluxation and vertebral fracture.

Specialized x-ray studies to determine disc injury in association with neck injury include myelography and discography. Myelography, is x-ray technique in which pantopaque is injected intraspinally and studied roentgenographically. It is used to demonstrate spinal block or large disc protrusion. Discography⁷ (Fig. 2) is a relatively new x-ray method in which a fine needle is inserted through the soft tissues of the neck directly into the disc, with subsequent injection of hypaque immediately followed by x-rays. This technique demonstrates existing intrinsic disc derangement and causes a recrudescence of symptoms that may lead directly to the identification of the deranged disc or discs.

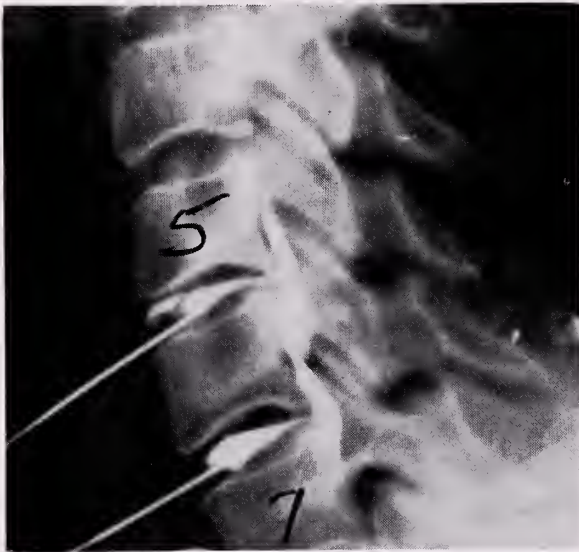


Fig. 2. X-ray of cervical spine taken during injection of hypaque into discs. Discography.

In order to isolate the damaged structures in the neck, the experienced examiner attempts to locate the tenderness, identify the muscles in spasm, determine the extent of muscle weakness, define the areas of sensory change and estimate the degree of response of the deep tendon reflexes.

The examiner may find tenderness of the cervical spine to be generalized or localized. During the acute phase of the injury, tenderness may be much more extensive than it is later, for the immediate severe muscle spasm at the site of the injury is a guarding mechanism for the prevention of motion that would cause more pain. As pain decreases under treatment, it is possible to identify the injured part by localization of tenderness.

While muscle spasm may occur locally, it may also take place at a distance from the spine injury if the annulus of the disc is damaged and is the source of the pain. In this instance, an examination for possible spasm of the musculature around the scapulae will assist in establishing the identity of the disc damaged. The dermatomal source of the nerve supply to the muscles involved will assist in localizing the neck injury.

The muscles of the shoulder girdle and arms may appear to be weak following a neck injury. Apparent weakness is usually due to pain on motion; actual muscle weakness occurs with direct injury to the muscle or to its nerve innervation. As the patient repeatedly responds by movement of the muscle, the distinction becomes apparent. Inspection alone may assist in determining muscle weakness, wasting and fibrillation. In the absence of pain, testing the strength of the muscles by hand pressure or with a measuring device is usually accurate. But if the pain is frequent or continuous, these methods may give a false determination. Total paralysis of the muscles is so extreme that it can usually be established by any common method of testing.

Sensory changes in the extremities may be subjective or objective. As far as I have been able to determine, subjective numbness has a localizing value only in a general way, for it may actually indicate a cervical injury one to three segments above that suspected. Objective sensory changes usually indicate a specific localized nerve root involvement.

The degree of response of the deep tendon reflexes following neck injury is often confusing if considered alone, but correlated with other physical findings, it assists in establishing a diagnosis. Hyperactive reflexes indicate upper motor neuron damage from spinal cord compression while reduced reflex responses indicate lower motor neuron damage or peripheral nerve root pressure.

When there is doubt as to the validity of any of the responses described, repeated testing may be essential.

* * *

The treatment of whiplash and other neck injuries is determined by the severity of the injury. The facts appearing in the history and in the physical examination determine the extent of the injury and the type and extent of the necessary therapy.

In the classification with which we began our discussion, mild cases (A) often require very little treatment. Hot packs, traction, cervical collar, ultra sonic wave treatments, muscle relaxing drugs and mild sedatives are usually sufficient. Moderately severe cases (B) respond to the same therapy, but the improvement is much slower. Severe cases (C) usually respond to this treatment for a time but become worse when it is discontinued, and require the surgical intervention described later. Very severe cases (D) with peripheral nerve injury and some paralysis respond poorly to the treatment described and require early surgical treatment. Cases of fracture-dislocation with complete paralysis (E), which may later be defined as extreme (F), require immediate a. careful transportation, b. x-ray, c. skeletal traction, and d. surgical decompression fusion and fixation until the fusion is solid. With the increased speeds of travel, terminal cases (G) with decapitation and death are becoming more frequent.

All cases in categories A to F require careful physiotherapeutic supervision during the period of recovery.

Surgical treatment of neck injury should be limited to those cases included in Categories C to F, i.e., mild to hopeless, in which there has been no response to conservative treatment, and in most instances, surgery should be preceded by discography.

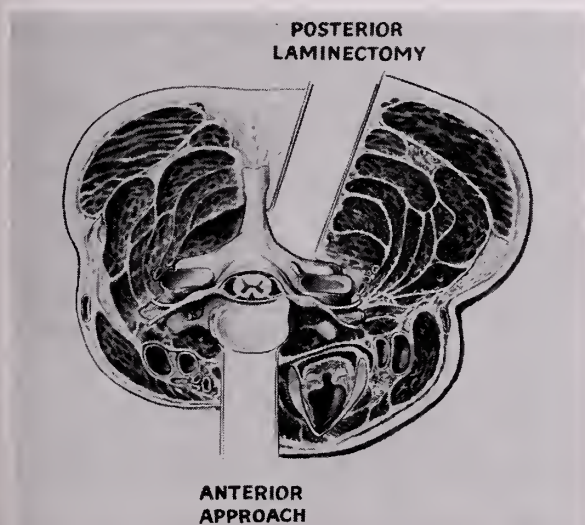


Fig. 3. Demonstration of anatomical structures encountered with posterior laminectomy and anterior disc excision.

(Fig. 3) In the past, cervical disc excision or disc excision and fusion was approached posteriorly, making it necessary to retract the spinal cord and nerve roots and to control bleeding epidural veins. These and other concomitant hazards resulted in many postoperative neural deficiencies.

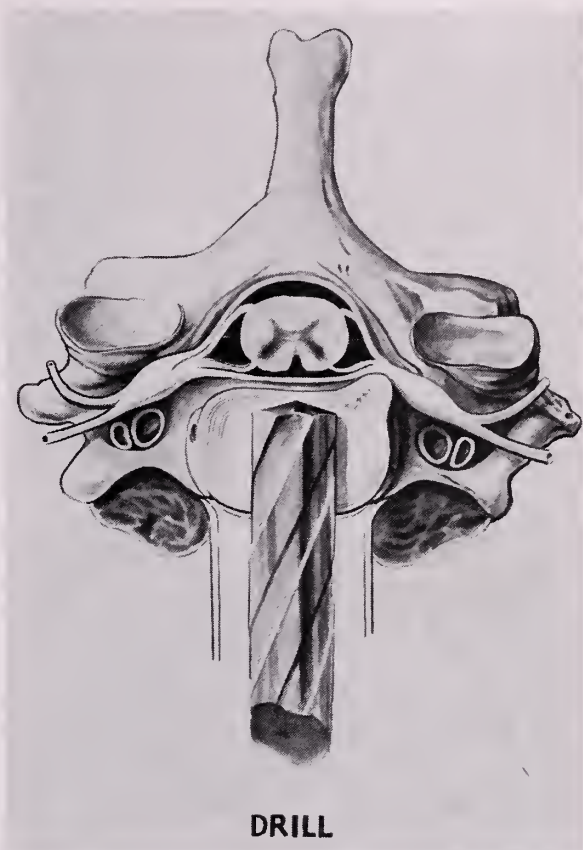


Fig. 4. Demonstration of drill used to excise disc prior to nerve root decompression and fusion.

(Fig. 4) The revolutionary anterior approach was designed by Cloward⁸ and reported in 1958. In this procedure, the anterior surface of the vertebral column is approached through an incision in the front of the neck, the disc is excised directly, the spinal cord and nerve roots are decompressed by extracting encroaching osteophytes and disc fragments, and an interbody spinal fusion is carried out. The result is a marked decrease of danger to the patient at the time and the elimination of many postoperative neural deficiencies.

The prospect of relief for a patient with whiplash and similar injuries has greatly improved. The years since 1958 have seen a

change in attitude toward this injury. The possibility of damage to the neck structures is increasingly recognized. An improved classification of symptom patterns provides a basis on which to advise and administer treatment.

Discography results in the repetition of painful symptoms, and indicates the location and extent of disc damage. The anterior approach to disc excision and fusion originated by Cloward avoids many hazards of the posterior approach.

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W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

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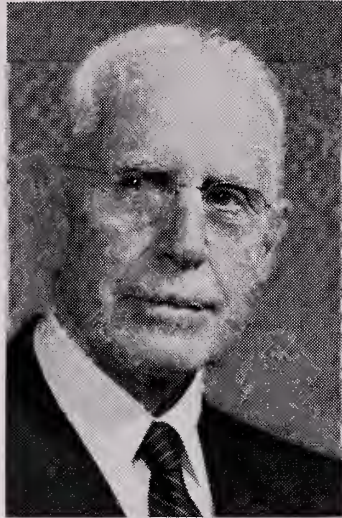
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CIVIL DEFENSE DISCUSSED IN DENVER

A one day regional meeting on Civil Defense was held in Denver by the American Medical Association's Committee on Disaster Care, September 16th. **Dr. R. F. Thompson**, Yankton, represented the U.S.D. School of Medicine at the sessions, which were also attended by the executive secretary and assistant executive secretary of the State Medical Association.



DEATH CLAIMS
DR. J. A. HOHF, 86

Dr. Julius A. Hohf, the last of Yankton's pioneer doctors, passed away August 31st at the age of 86.

Dr. Hohf was born in Plymouth county, Iowa, on June 19, 1875. He received his public school education in Clay county and earned his BS degree in 1902 at Freemont Normal College. He then went to Northwestern University Medical School and won his MD degree in 1906. He was married to Rose O. Chalmers of Des Moines in February of 1905.

He began his private practice in Tripp, South Dakota in 1907 and stayed there until 1913, when he went to Yankton to launch the Hohf Clinic with his brother, Dr. S. M. Hohf, now deceased.

Dr. Hohf carried on his practice as eye, ear, nose and throat specialist in the Hohf Clinic until it was sold in 1952. After that he continued his office practice at the Yankton State Hospital until ill health forced his retirement on April 10th. The following day he entered Sacred Heart Hospital, and remained there, with the exception of 10 days, until his death.

For 40 years he lectured to students at Sacred Heart Hospital, while carrying on an active practice downtown.

Dr. Hohf was a trustee of Yankton college

and chairman of its executive board for 37 years. He served as a member of the Board of Education, and was a member and past president of the Chamber of Commerce and Rotary International. He was a member of the BPO Elks, and St. John's Lodge No. 1, A.F. and A.M.

His other affiliations included an honorary membership in the South Dakota Medical Association; Yankton District Medical Society, American Academy of Ophthalmologists and Otolaryngologists, and the American Medical Association.

Surviving Dr. Hohf are two daughters, Dr. Evelyn Hohf of Yankton and Mrs. R. W. (Josephine) Patterson of Cleveland; a son, Dr. Jerome C. Hohf of Victoria, Texas; and five grandchildren. He was preceded in death by his wife and a daughter, Winifred.

Other survivors include his youngest brother, **Dr. E. Hohf** of Mitchell, and a niece, Betty Hohf of Chicago, the daughter of the late Dr. S. M. Hohf.

The Association extends its deepest sympathy to the family of Dr. J. A. Hohf — a truly prominent and dedicated pioneer doctor.

MEDICAL LIBRARY BOOKSHELF



HEALTH EDUCATION A GUIDE FOR TEACHERS AND A TEXT FOR TEACHER EDUCATION (5th Edition — Edited by Bernice R. Moss) National Education Association, 1961

The fifth edition of this excellent book, **Health Education: A Guide for Teachers and a Text for Teacher Education**, has recently been published by the National Education Association. This was a project of the Joint Committee on Health Problems in Education of the NEA and the AMA. The editors are Bernice R. Moss, Professor of Health Education at the University of Utah; Warren H. Southworth, Professor of Health Education, University of Wisconsin; and John Lester Reichert, a specialist in pediatrics in Chicago, Illinois; together with numerous consultants and contributors.

The book, with its modern concepts of educational aims and objectives in curriculum planning and teaching, is in contrast to the earlier books in this field which were guides for the teaching of "hygiene" in our schools. Emphasis then was on memorizing technical terms; instruction was formal; and little attention was given to improving ways of living.

Superintendents should read this book in order to gain an understanding of how the health of students can be improved in the physical environment of the school, and for planning for an effective health education curriculum for his particular school.

Teachers responsible for teaching health education will turn to it, along with **School Health Services** and **Healthful School Living**, as valuable source books and guides to course planning. Physicians and others in the field of health will find it to be a good reference book.

GIFT BOOK FOR REVIEWING

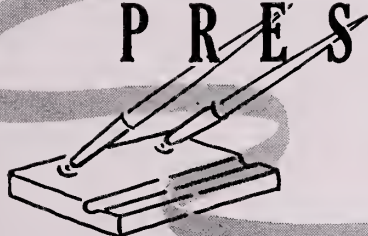
Robert M. Cunningham, author of **Hospitals, Doctors and Dollars** published by F. W. Dodge Corporation in 1961, has a unique journalistic style of writing and a sense of humor which makes this book enjoyable as well as informative reading. It is spiced with anecdotes, quotations, and true episodes from the author's experiences in hospital administration, and his acquaintance with the medical profession. Some of the articles were originally published in slightly different form in the pages of the **Modern Hospital**, of which Mr. Cunningham has been the editor since 1951.

The layman might not be convinced when he pays his hospital bill that, as Mr. Cunningham states, "a day in the hospital costs no more than a night in the saloon," or that the "average hospital bill is still about equal to the price of a medium quality fur-trimmed coat" or "a weekend in an upper-middle class resort in the country," or "a new set of tires" or "is \$100 too much to charge a man for curing the pneumonia he got sitting in the rain in a football game he paid \$100.00 to see?"

For reference purposes librarians will find an interesting discussion of Great Britain's Socialized Medicine program; also, valuable thumb nail sketches of Dr. Morris Fishbein; Dr. Charles Wilensky; Dr. Arthur Bachmeyer and Frank Lloyd Wright and his ideas about Hospital Design.

Mrs. Esther Howard
Medical Librarian

P R E S I D E N T ' S P A G E



Just about everything I told you last month concerning the O.A.A. Program has been changed, as we are constantly attempting to iron out the kinks in this new program.

At the present time, authorization for hospitalization is needed only for the original hospitalization and this is good up to thirty days if necessary. You no longer have to get separate authorizations for each ten day period in the hospital.

After October 1st the large monthly cards will be discontinued and each O.A.A. recipient will receive a pocket identification card that will entitle him to twelve services a year, not including hospitalization. These cards **are not** to be picked up and attached to your bills.

Your state office is now processing from 65 to 100 claims a day as of September 15th. With the cooperation of all the doctors, this program can be made to work in both a fair and an economical manner. We have had very little trouble so far — keep it up!

C. J. McDonald, M.D.

President

AMA CLINICAL MEETING SET NOV. 26-30 AT DENVER

The 15th annual clinical meeting of the American Medical Association will be held Nov. 26-30 at Denver, with a program geared to basic problems of medicine faced by physicians in their practice.

An outstanding scientific program, with emphasis on new research developments, has been planned under the direction of Samuel P. Newman, M.D., Denver, chairman of the AMA's Council on Scientific Assembly.

Some highlights will include sessions and papers on such important areas of medicine as genes and chromosomes, electronics and computers in medicine, space medicine, medical aspects of American habits, new developments in virology, treatment of radiation injuries, new findings in chemotherapy for cancer and latest data in the field of antibodies and antigens, Dr. Newman said.

With more and more nuclear reactors coming into use all over the nation, many practicing physicians soon may begin to face the problem of treating injuries from radiation accidents, the chairman said.

A section of internationally known experts in the treatment of radiation injuries will offer three major papers in this important new area of medical care. Chairman will be Marshall Brucer, M.D., chairman of the medical division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.

The radiation experts will discuss such topics as "Potential and Probable Sources of Radiation Accidents," "Diagnosis and Pathology of Radiation Injury" and "Treatment and Prognosis of Radiation Injury." Participants will include researchers from Los Alamos and Oak Ridge, the Office of the Surgeon General and the University of

Chicago.

The age of advancing physical science also offers new findings to medical science: the use of electronics and computers in medicine. Chairman of this section at the Denver meeting will be A. H. Schwichtenberg, M.D., head of the department of aero-space medicine, Lovelace Foundation for Medical Education and Research, Albuquerque, N. M.

Computer systems for recording medical data to aid the physician in his diagnosis and prognosis will be discussed. Topics will include "The Future of Electronics in Medicine," "Microelectronics and New Concepts of Bioinstrumentation," "A System for Medical Data Recording," and "Biological Computers."

The virus, one of the most complex problems facing the clinician, will be the subject of a series of papers by outstanding specialists. Jonas E. Salk, M.D., Pittsburg, originator of the killed virus polio vaccine, will give a paper on "Immunization Against Virus Diseases." Other topics will include "The Nature of the Virus and Its Cellular Reaction," "Smallpox Vaccination Complications," "Virus Hepatitis" and "Identification of Viruses."

"We are confident that the 15th annual clinical meeting will offer one of the most interesting and informative programs ever presented at the winter session," Dr. Newman said.

"The program is designed to assist the physician in his practice. The latest findings in many areas of medicine will be presented by men who are top specialists in their fields. The meeting will be of great value to the clinician in advancing his knowledge."

EDITORIAL PAGE

An illustration of a document with a signature and a ribbon. The document is tilted and shows several lines of text and a signature at the bottom. A ribbon is draped over the top of the document.

U. S. JAYCEES OPPOSE HR 4222

The United States Junior Chamber of Commerce at their annual meeting in June of 1961 adopted a resolution opposing HR 4222 as indicated in the following resolution.

OPPOSITION TO SOCIALIZED MEDICINE

Adopted June 1961

WHEREAS the United States Junior Chamber of Commerce is ever mindful of federal legislative enactment which affects the economic and social lives of the people of this great nation; and,

WHEREAS there is currently pending in the Congress of the United States House Bill 4222 initiating compulsory medical health care benefits under the Social Security System which is not in the best interest of the American people; and,

WHEREAS enactment of this or similar legislation would be detrimental to the high standards of medical care, would deprive the citizens of the United States of the opportunity to provide their own medical care, would discourage our citizens of today from preparing for their old age and, at the same time, tend to remove the responsibility of men and women of America from caring for their own families; and,

WHEREAS such legislation would be another step toward socialism and would jeopardize our free enterprise system which has made steady progress in extending and improving voluntary hospital insurance coverage of the aged under commercial programs; and,

WHEREAS one of the present proposals has in it the element of government determination of the price for hospital, nursing home and medical service fees that would restrict the beneficiaries in their choice of hospitals and physicians; and,

WHEREAS this bill, if enacted, would increase the cost of social security and would possibly be extended progressively to include comprehensive care for larger and larger segments of our population thereby decreasing the take-home pay of the American citizen; and,

WHEREAS the United States Junior Chamber of Commerce believes this country has become great through the individual initiative of its citizens and that legislation of this type tends to surpress this initiative;

NOW THEREFORE BE IT RESOLVED that the United States Junior Chamber of Commerce, in convention assembled this 21st day of June, 1961, in Atlanta, Georgia, hereby opposes the House Bill 4222 now pending before the Congress of the United States or any similar legislation that may be introduced. BE IT FURTHER RESOLVED that the newly elected President of the United States Junior Chamber of Commerce be directed to request time to present personal testimony before the House Ways and Means Committee in July, 1961.

BE IT FURTHER RESOLVED that we believe that said proposed legislation would destroy our voluntary health program in the United States and further that it violates constitutional freedoms and the Creed of the United States Junior Chamber of Commerce.

BE IT FURTHER RESOLVED that copies of this resolution be presented to the President and the Vice President of the United States of America, Secretary of Health, Education and Welfare, and each member of the Congress of the United States of America.

THE MONTH IN WASHINGTON

The Senate and House approved a multi-million dollar expansion of federal aid to community health services.

The Senate approved it by routine voice vote a few weeks before adjournment. The House earlier had approved a slightly different form of the legislation. No difficulty was anticipated in adjusting the differences of the two versions so that it could become effective at an early date.

Some of the programs covered by the legislation were of special importance to the aged and the chronically ill. Key provisions of the bill would:

—Raise from \$30 to \$50 million, for five years the annual authorization for matching grants to states and cities for public health services such as home nursing, home health care and a variety of services to nursing homes.

—Establish a five-year \$10 million-a-year program of special grants to non-profit groups for research and development aimed at improved health services given outside the hospital.

—Raise from \$10 million to \$20 million the annual authorization for construction of public and non-profit nursing homes.

—Extend loan provisions for hospital construction under the Hill-Burton Act until its grant program expires in June 1964.

—Raise from \$1.2 million to \$10 million the annual ceiling on grants for hospital research and permit grants for experimental or demonstration hospital units.

—Extend for three years the matching grant program which provides federal help for construction of health research facilities and authorize \$50 million rather than \$30 million a year.

* * * *

INFLUENZA EPIDEMIC PREDICTED

Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service, predicted that there will be a new influenza epidemic in the United States this fall and winter.

He urged immediate vaccinations for people over 65, pregnant women and persons with heart diseases and other chronic illnesses.

"We are probably due for some Asian flu outbreaks, since they come in two or three year cycles," Terry said, "and we are overdue for type B flu outbreaks which come in four to six-year cycles."

Both types of flu were prevalent in other countries in 1960-61, especially in England. In 1951, when England had a similar epidemic, flu reached this country the following year, Terry noted.

The U. S. Public Health Service is alerting physicians, state health officers and welfare agencies to include flu shots in their programs of public assistance.

* * * *

LIVE VIRUS POLIO VACCINE LICENSED

The Type I oral, live virus polio vaccine developed by Dr. Albert Sabin has been licensed by the U. S. Public Health Service for marketing in the United States.

However, the PHS, the American Medical Association and others urged that the widest possible use still be made of the Salk killed vaccine. The principal use of the newly licensed oral vaccine this year will be against epidemic threats of Type I polio.

For an epidemic reserve, the PHS ordered at the time of the licensing a total of 900,000 doses of the Type I vaccine in frozen form at a cost of \$81,000.

Information on the terms for obtaining vaccine from this epidemic reserve was sent to State Territorial Health Officers. The requirements include:

At least three cases of Type I polio in the community within a month, of which two have been confirmed to be Type I by laboratory analysis.

Adequate community organization and medical leadership to insure rapid and complete coverage of the population under 50.

Agreement to make the vaccine available without charge to persons under 50.

All local requests must be channeled through State health departments.

"Until such time as oral vaccines against all three types are available, the Salk vaccine remains the only protection available against all types of paralytic polio," the A.M.A. said.

**COUNCIL MEETING — SOUTH DAKOTA
STATE MEDICAL ASSOCIATION
Sunday, September 10, 1961
711 North Lake Avenue
Sioux Falls, South Dakota**

The meeting was called to order by Chairman M. C. Tank, M.D., at 1:45 P.M. Present for roll call were Drs. C. J. McDonald, Magni Davidson, R. H. Hayes, A. P. Reding, A. A. Lampert, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, T. H. Sattler, E. P. Sweet, Harold Lowe, and E. A. Johnson. A quorum was declared present.

Dr. McDonald moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they have been published. The motion was seconded by Dr. Reding and carried.

Mr. Foster announced that the report on Tissue Study Controls in Small Hospitals would be made at the January Council meeting.

The Council considered honorary membership for Dr. J. Byrne and Dr. Ray Lemley, who had been nominated by the Black Hills District Medical Society. Dr. Sattler moved that inasmuch as Dr. Lemley does not meet the requirements for honorary membership as written in the Bylaws, he cannot be issued such honorary membership; that a letter be written to the Black Hills District Medical Society explaining the action of the Council. He also moved that honorary membership be granted Dr. J. Byrne. The motion was seconded by Dr. Hayes and carried.

Mr. Foster explained a letter from the Physicians and Surgeons Underwriters Corporation concerning malpractice insurance. Dr. Stransky moved that the matter be referred to the Committee on Medical Economics for further study. Dr. McDonald seconded the motion and it was carried.

Mr. Foster explained the proposal to present a token check to AMEF at the Interim AMA session. Dr. Sattler moved that the Delegate be instructed to determine the proper action at a later date, and that the AMA be informed that South Dakota would determine its action after it determined that such action would be of value as a public relations aid. Dr. Davidson seconded the motion and it was carried.

A letter from the Legislative Research Council requesting information on the Medical Association's stand on the Kerr-Mills law and its implementation in South Dakota was read. Dr. McDonald moved that the Medical Association give its full cooperation to the Legislative Research Council by providing requested information and listing specific recommendations for this program. The motion was seconded by Dr. Hayes and carried.

A discussion on a resolution of the Georgia Medical Association resulted in a motion by Dr. Lampert that the Secretary be instructed to formulate a resolution for presentation at the January Council meeting, incorporating the feelings of the South Dakota State Medical Association on its relationship with the AMA and that if the resolution is passed at the January Council meeting, it be presented to the House of Delegates in June. The motion was seconded by Dr. Reding and carried.

A request of the State Health Officer for reaffirmation of the Medical Association's stand on fluoridation of city water supplies was discussed. Dr. Johnson moved that the Council reaffirm the action of a previous date in favor of fluoridation of

city water supplies. The motion was seconded by Dr. Davidson and carried.

Mr. Foster spoke on some of the Civil Defense activities underway at the present time. He explained the training workshop to be held by the AMA in Battle Creek, Michigan, in December. Dr. Lampert moved that the matter be referred to the Civil Defense Committee for study and that a representative be instructed to attend the meeting and report back to the Council at the January meeting. Dr. McDonald seconded the motion and it was carried.

A proposed change in the Medicare Contract was read as follows:

b. Under Article 5 of the Schedule entitled **DETERMINATION OF AMOUNTS PAYABLE TO PHYSICIANS** the following subparagraph f is added:

"f. No party to this contract will publish for distribution to, or distribute to, physicians (who may provide authorized care at Government expense to eligible dependents) any of the fees contained in (Appendix D) the Medicare Manual and Schedule of Allowances and addenda thereto. If any queries are received by parties of this contract concerning the Medicare maximum fee(s) negotiated for services performed or to be performed, the questioner will be advised to charge his usual or normal fee for like services provided to an individual with an annual income of \$4500 or less."

Dr. Lampert moved that the Council recommend that the amendment to the contract be deleted; that the contract be signed and returned to the Army; that the Army be requested to take into consideration our past action in the operation of the program; and that they accept the total contract on the same basis as it has been negotiated in the past. Dr. Askwig seconded the motion and it was carried.

The following resolution of the 7th District Medical Society was read:

RESOLUTION

WHEREAS: At the 1961 annual meeting of the South Dakota State Medical Association the dues were increased by \$25, and

WHEREAS: This was necessary because of the adoption of an increased budget for the operation of this association, and

WHEREAS: There is considerable dissatisfaction with the fact that this was all accomplished in such haste that insufficient opportunity was given for full consideration of the entire matter, be it

RESOLVED: That we the Seventh District Medical Society recommend and request the Executive Committee and Council, in the future, to observe the following point:

That the Committee on Budget and Audit meet at such a time in advance of the annual meeting so that their reports and recommendations

as to changes in the budget or in the annual dues may appear in the Delegates handbook, thereby giving opportunity for these matters to be studied and decisions made well in advance of the time of the House of Delegates Meeting.

A. K. Myrabo, M.D.
Secretary

Dr. McDonald moved that in the future, the Budget and Audit Committee meet in January, prior to the Council meeting, and prepare a budget to be submitted to the Council at the January meeting and to the Delegates in the Delegates Handbook. The motion was seconded by Dr. Davidson and carried.

Dr. Lampert discussed some of the actions of the AMA House of Delegates at the annual meeting in New York City. In regard to the AMA recommendations on osteopathy, Dr. Lampert moved that the Chairman of the Council appoint a committee composed of two members of the Council and two members of the Board of Medical Examiners to consider the South Dakota State Medical Association's interpretation of the new osteopathic ruling from the AMA; that the Committee be instructed to meet with the liaison committee of the State Osteopathic Association; that recommendations for our procedure be submitted to the Council at the January meeting. The motion was seconded by Dr. Davidson and carried. Dr. Tank appointed the following individuals to serve on the proposed committee: J. W. Donahoe, M.D.; B. F. King, M.D.; J. T. Elston, M.D.; and J. J. Stransky, M.D.

Dr. Lampert then discussed medical discipline. Dr. Lampert moved that the AMA report, as received and accepted by the House of Delegates at the June, 1961, meeting, be referred to the Grievance Committee for consideration and that said Committee be instructed to return a progress report at the Council meeting in January, and to submit a final report to the House of Delegates at the June, 1962, meeting, explaining our own policy in the approach to the problem of medical discipline. The motion was seconded by Dr. Sattler and carried.

Dr. Lampert explained some of the work done by the AMA on standard insurance forms. Dr. Hohm moved that the Council take no official action at this time on the AMA forms, but that an educational program to further more widespread use of the SDSMA standard insurance form be undertaken, and to check further into the forms suggested by the AMA. The motion was seconded by Dr. Johnson and carried.

Dr. Lampert spoke briefly on the AMA action on non-partisan medical testimony and moved that the information presented at the last AMA meeting concerning non-partisan medical testimony be referred to the Medical-Legal Committee and that such Committee be instructed to review it, with the appropriate Bar Association Committee, if necessary, and to return recommendations at the annual meeting in June, 1962. The motion was seconded by Dr. Hayes and carried.

A discussion was held on oral polio vaccine. Dr. Lampert moved that the material presented at the AMA meeting concerning the oral polio vaccine be referred to the Public Health Committee and that the Committee be instructed to consider it and submit to the Council a report at the January Council meeting with their recommendations concerning the use of oral polio vaccine. The motion was seconded by Dr. Reding and carried.

Dr. Lampert then spoke briefly on the hearings held in Washington on the King Bill. Mr. Foster suggested that the various Districts attempt to schedule Mr. Charles Johnson, AMA Field Representative, as a speaker at one of their District

meetings during the year. Dr. Lampert moved that the Council refer this problem of possible defense against King Bill type legislation to the Executive Committee for a report on the procedure to be followed and that specific recommendations be returned to the Council at the January meeting. The motion was seconded by Dr. McDonald and carried.

Mr. Foster spoke briefly on the possibility of the Selective Service Advisory Committee being utilized again in the future. Dr. Hayes moved that a new Committee be recommended for appointment. Dr. Perry seconded the motion and it was carried. Suggestions for nominees were Dr. P. V. McCarthy, Dr. G. J. Van Heuvelen, Dr. D. L. Kegaries, and Dr. R. A. Buchanan.

Mr. Foster discussed activities of the Basic Science Board concerning prosecution of illegal practitioners.

Mr. Foster discussed the OAA program and the progress made in beginning this program. Dr. McDonald moved that the Council take official action to ask the Welfare Department that claims be filed directly with the fiscal agent, including the request for future treatment which would then be forwarded to the Welfare Department by the Medical Association office. The motion was seconded by Dr. Sweet and carried.

The meeting adjourned at 4:30 P.M.

AMA CLINICAL MEETING IN DENVER TO STUDY MEDICAL ASPECTS OF AMERICAN HABITS

Every physician is well aware that the personal and group habits of his patients in their everyday lives have a profound effect on the health of the individuals.

A group of Denver physicians, plus a colleague from Wyoming, will present a study of medical aspects of American habits as a highlight of the program of the 15th annual clinical meeting of the American Medical Association, Nov. 26-30 at Denver.

The Colorado group has been studying the various American habits to be covered in the section for some time, and the program is expected to draw wide interest among the profession.

Chemotherapy in cancer, an area in which knowledge is growing rapidly, will be another important feature of the clinical meeting program.

Much new knowledge has been gained in the last decade in the important area of antibodies and antigens. Several papers have been scheduled to report some of the new findings to the clinicians.

Suicide will be analyzed in a section that will be of importance to the clinician to assist him in recognizing symptoms and taking preventive steps among his patients. Topics on this subject will include "Statistics and Public Health Significance," "Causes," and "Prevention."

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

The supreme optimist is the fat man who orders his suit too small because he is going to diet.

NEWS NOTES

Dr. F. R. Williams of the Williams Surgical Clinic in Rapid City announces the addition of a new staff surgeon, **Dr. Lyle G. Freimark**. Prior to going to Rapid City, Dr. Freimark spent two years on the surgical teaching staff at the State University of Iowa College of Medicine.

* * *

Warren L. Reinoehl, M.D., a native of Bonesteel, South Dakota, has accepted the position of Medical Director and Superintendent at Sanator, South Dakota. Dr. Reinoehl had been practicing in Phoenix, Arizona.

* * *

A grant of \$40,000.00 has been received by the University of South Dakota School of Medicine to support a five year training program for medical students in the field

of mental health. **Dr. W. L. Hard**, Dean of the school, said the grant was made available by the National Institute of Mental Health of the United States Public Health Service.

* * *

A five-day International Medical-Legal Society seminar has been set for February 17-24, 1962 in Honolulu, Hawaii. The seminar will be of particular interest and value to physicians subject to malpractice as well as medical legal work. The Where-To-Go Travel Service of Seattle has been selected as the sole travel agency to make the travel arrangements for the meeting. Reservations will be limited, so if you are interested, please contact **Wm. P. Hauser, M.D.**, Executive Secretary, 1206 South 11th, Tacoma, Washington for further information.

* * *

The 15th Annual Postgraduate Assembly, sponsored by the San Diego County General Hospital, will

be held on Wednesday, November 1, and Thursday, November 2, 1961, at the County Hospital in San Diego, California. The fields to be discussed include: Surgery, Urology, Medicine, Obstetrics-Gynecology, Orthopedics, Pediatrics, Neurosurgery, and Clinical Neurology. The registrar is **James E. Sandell, M.D.**, c/o San Diego County General Hospital, San Diego 3, California.

* * *

Five of the nation's leading specialists in cerebral palsy will discuss neuromuscular, brain and therapy problems relating to speech handicaps of the cerebral palsy patient in a unique symposium at the convention of the American Speech and Hearing Association, November 7th in Chicago.

* * *

The luncheon meeting of the American Institute of Ultrasonics in Medicine, which was to have been held in Cleveland, was cancelled due to the fact that the

scheduled speaker, **Doctor Janet Travell**, personal physician to President Kennedy, was unable to attend.

* * *

The American Medical Association has announced the recent promotion of two members of the administrative staff. **Leo E. Brown**, director of communications, moved up to a new position as assistant to the executive vice president. **Jim Reed**, director of press relations and editor of **The AMA News**, takes over as director of the Communications Division.

* * *

The Third National Conference on the Medical Aspects of Sports will be held in Denver, Colorado, at the Cosmopolitan Hotel on November 26, 1961. The Conference will be held in conjunction with the annual Clinical Meeting of the American Medical Association November 26-30, 1961. Those interested in receiving announcements concerning the Conference should write: Secretary, Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

* * *

The October schedule for the MEND Monthly Lecture Program is as follows:

October 25, 8:00 P.M. — "Hepatic Cirrhosis, Causes, Complications and Treatment."

October 26, 8:00 A.M. — "Interesting Malabsorption Problems."

The speaker for both of these fine programs will be F. F. Paustian, M.D., Department of Internal Medicine,

College of Medicine, University of Nebraska, Omaha, Nebraska. Both programs will be held at Sacred Heart Hospital in Yankton, South Dakota.

* * *

The American College of Chest Physicians will hold its annual Interim Session at the Brown Palace Hotel in Denver, Colorado, November 25th and 26th. The scientific sessions will be held Saturday morning, November 25, and Sunday afternoon, the 26th. The Board of Regents and Board of Governors (which includes **Robert C. McCroskey, M.D.** of Rapid City, Governor) of the College will meet on Saturday afternoon. A program may be obtained by writing the Executive Offices of the College at 112 East Chestnut Street, Chicago, Illinois.

Sacred Heart Hospital Sets Conference Schedule OCTOBER

- 17 Executive Committee, Monthly Meeting (8 a.m.)
- 19 Tumor Clinic — Dr. Tidd (8 a.m.)
Ward Rounds — Students (9 a.m.)
Journal club—Dr. Thompson (noon)
- 23 Monthly Meeting — Dept. OB-Gyn (8 a.m.)
- 24 Monthly Meeting — Dept. Surgery (8 a.m.)
- 25 Monthly Meeting — Dept. of Medicine, Pediatrics, Psychiatry (8 a.m.)
Quarterly meeting, Staff 6:30 P.M. — Dinner, cafeteria
7:15 P.M. — Business, cafeteria
8:00 P.M. — Monthly Lecture: Hepatic Cirrhosis, causes, complications, treatment: Dr. F. F. Paustian, Dept. of Medicine, University of Nebraska
- 26 8:00 A.M. — Monthly Lecture: Interesting malabsorption problems, Dr. F. F. Paustian
9:00 A.M. — Ward rounds — Students
12 noon — Journal club — Dr. Anderson

Part I examination (written) of the American Board of Obstetrics and Gynecology will be held on Friday, January 5, 1962. For information on requirements and location of examination, contact **Robert L. Faulkner, M.D.**, American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

* * *

Noel de Dianous, Jr., M.D. has opened an office as a specialist in pediatrics in Aberdeen, South Dakota. Born in Panama, he attended school in Venezuela and New York. His medical schooling was received at the University of Nuevo Leon, Monterrey, Mexico. He served two years residency in pediatrics at the Driscoll Foundation Children's Hospital in Corpus Christi, Texas, and was chief resident, as well, for two years.

* * *

GENERAL PEDIATRICS REVIEW PLANNED

A general review of recent advances in Pediatrics is planned for October 31, November 1st and 2nd, 1961 in Augusta, Georgia. Attention will be focused upon the fundamental areas of growth and development, genetics, behavior problems, fluid and electrolytes, metabolic disorders and allergies. The course is acceptable for 18 hours credit by the American Academy of General Practice. A \$50.00 fee will be charged for each session. Interested physicians should contact Dr. Claude-Starr Wright, Director, Department of Continuing Education, Medical College of Georgia, Augusta, Georgia.



AMA 15th CLINICAL MEETING

*the medical summit
in the mile-high city...*

DENVER NOV. 26-30

Denver—the hub of the Rocky Mountain states and air-rail-auto crossroads of the West—plays host to the nation's physicians next November by presenting the most vital, timely, and varied scientific program ever assembled at a winter clinical meeting.

Nothing in medicine is so new that you won't find it discussed or exhibited in Denver. Planned just for you—the physician in practice—a five-day session headlined by many of the nation's leading medical authorities offering a blending of "refresher" education with the most advanced knowledge, tools and techniques developed in recent research.

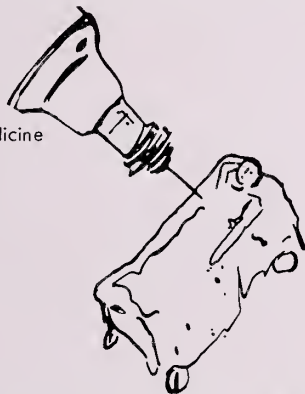
The entire scientific program is scheduled in one convenient location, Denver's Municipal Auditorium. Here are but a few of the many topical highlights:

PANEL DISCUSSIONS

- Influence of Heredity on Disease
- New Developments in Virology
- Space Research—Impact on General Medicine
- American Habits vs. Health
- Advances in Chemo- and Radiotherapy
- Suicide—Causes and Prevention
- Medical Computers and Electronics
- Radiation Accidents and Injury
- Sunlight and Skin Care

BREAKFAST MEETINGS

- Community Psychiatric Care
- Malmstrom Vacuum Extraction
- Diagnosis in Pulmonary Surgery
- Pyelogram Clinics
- Poison Control Centers
- Dermatology Quiz Sessions



- MEDICAL MOTION PICTURE PREMIERES
- CLOSED CIRCUIT COLOR TELEVISION
- 215 SCIENTIFIC AND INDUSTRIAL EXHIBITS



For a medical meeting in depth in America's highest city

DECIDE NOW—IT'S DENVER IN NOVEMBER

See JAMA October 14 for complete scientific program . . . for physician
advance registration and hotel reservations



American Medical Association, 535 North Dearborn Street, Chicago 10, Ill.

RETURN TO Circulation and Records Dept., A.M.A., 535 N. Dearborn St., Chicago 10

FOR ADVANCE REGISTRATION OF PHYSICIANS

This coupon must be returned before Nov. 10 to receive your advance registration identification card for Denver. Your card will be sent to you on Nov. 14 unless you request an earlier mailing date.

Name _____
PLEASE PRINT

Address _____
CITY ZONE STATE

I am a Member of the A.M.A. thru the _____ State Medical Association

or in the following government service: _____

(EVERY PHYSICIAN MUST REGISTER IN HIS OWN NAME)

RETURN TO A.M.A. Housing Bureau, Denver Convention Bureau, 225 W. Colfax, Denver 2

FOR ROOM RESERVATIONS

Please print or type four choices of Hotels or Motels:

1st _____ 2nd _____

3rd _____ 4th _____

_____ Rooms for _____ persons • Rate \$ _____ to \$ _____ per room.

_____ Suite parlor and bedroom for _____ persons • Rate \$ _____

Date Arriving _____ hour _____ A.M. _____ P.M. _____ Leaving _____

Room(s) will be occupied by:

NAME STREET ADDRESS CITY ZONE STATE

Please attach list of additional names if you do not have sufficient space here. Also list ages of children, if any.

If you are an industrial exhibitor, be sure to give name of firm and individuals to occupy room or rooms reserved.

Please make all changes and cancellations through the Housing Bureau. Hotel reservations will be held only until 6:00 P.M. unless otherwise specified.

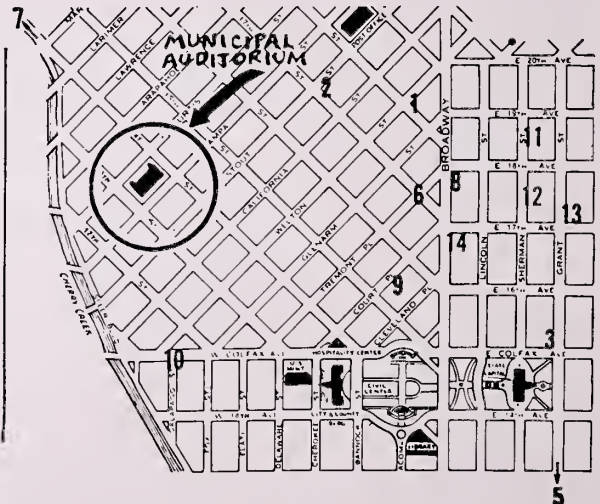
HOTELS

SINGLES

TWINS

1	†Adams	\$ 5.50-7.00	\$ 7.50-10.50
2	†Albany	6.50-8.50	12.50-14.50
3	†Argonaut	6.50-10.00	10.00-15.00
4	†Auditorium	5.50	6.50-8.00
5	†*Broadway Plaza	9.00	12.00-14.50
6	†Brown Palace	8.50-13.00	14.00-20.00
7	†*Continental Denver	10.00	12.50-15.00
8	†Cosmopolitan	8.50	12.00-18.00
9	Denver Hilton (Headquarters)	No accommodations.	
10	*DeVill Motel	10.00-12.00	13.00-15.00
11	*Diplomat	10.50	17.50-18.50
12	*Imperial	10.00	15.00-17.00
13	Mayflower	8.50-12.50	9.50-17.50
14	†Shirley Savoy	7.00-8.50	9.50-14.00

*Motels †Suites also available






PHARMACEUTICAL

SECTION

GUILFORD C. GROSS, PH.D.
EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota

PHARMACEUTICAL *Paper*



PHARMACY PROFESSION IN LIGHT OF U. S. ANTITRUST LAWS*

by
Arthur B. Hanson**

An intended application of a certain law of the land could — if carried to its ultimate conclusion — destroy the proud professional position which you have achieved since the first reference to your profession as such in the eighth century A.D.

You might well say — What's all the shouting about? The mere fact that I am held to be subject to the Sherman Act in no way affects my status as a professional. I am what I am irrespective of what the Department of Justice says I am.

You are mistaken if you accept that viewpoint. All you have to do is to read the government's civil complaint against the Arizona, Maricopa County and Tucson Pharmaceutical Associations as it appears in the May 1961 Journal of the American Pharmaceutical Association to recognize that legally it is the contention of the Department of Justice's antitrust division that as a practicing pharmacist engaged in the dis-

persing of prescription drugs, you occupy the same position as does a grocery clerk selling cabbage or a hardware store clerk selling nails. The government has leveled essentially the same charges against the Northern California, Idaho and Utah Pharmaceutical Associations in the form of civil complaints and in the Northern California case has criminally indicted the Northern California Association and Donald K. Hedgepeth, an individual member of the association. This case is set for trial in San Francisco on May 22.

As a practicing attorney, I do not intend to try these cases before you. This is for the courts. However, you are entitled to have my views as your lawyer as to the present effect that these cases and related activities are having on your profession and also my views as to the appropriate application or non-application of the Sherman Act to the profession of pharmacy.

The Sherman Antitrust Act was signed into law on July 2, 1890. The legislative debates which preceded its adoption very clearly established that it was the intention of its sponsors to limit its effect to the care of a specific evil — namely, the tremendous aggregation of capital in the form of trade trusts, which might or might not correlate with what had

*Taken from an address given at the annual convention of the American Pharmaceutical Association in Chicago, April 1961. Reprinted from the Journal of the American Pharmaceutical Association, June, 1961.

**Chief trial counsel for the law offices of Elisha Hanson and general counsel for the American Pharmaceutical Association. He is serving as co-counsel in the Justice department actions in Arizona, California, Idaho and Utah.

been held to be a restraint of trade at common law.

Several quotations from the debates of that day will help to establish in your minds the intent behind the law. **The bill does not seek to cripple combinations of capital and labor, the formations of partnerships or of corporations, but only to prevent and control combinations made with a view to prevent competition or for the restraint of trade or to increase the profits of the producer at the cost of the consumer.**

Senator Sherman went on — **We all know that a trust is the latest and most perfect form of combination among competing procedures to control the supply of their product that they may dictate the terms on which they shall sell in the market and may secure release from the stress of competition among themselves. The existence of trusts and combinations to limit the production of articles of consumption entering into interstate and foreign commerce for the purpose of destroying competition in production and thereby increasing prices to the consumer has become a matter of public history.**

Only one reference to the professions appeared in these debates. Peculiarly enough a senator asked Edmunds of the judiciary committee whether he knew of — **combinations in this city or elsewhere between bar associations and doctors for raising their prices or fees.**

Edmunds replied he didn't know and when queried further as to whether the bill reached any case of that kind he replied — **I don't know whether it does or not.**

The act itself is divided into seven sections. They are identified by topic headings —

Sec. 1. Trusts, etc., in Restraint of Trade
Illegal; Penalty

Sec. 2. Monopolizing Trade a Misdemeanor;
Penalty

Sec. 3. Trust in Territories or District of
Columbia Illegal; Combination a
Misdemeanor

Sec. 4. Jurisdiction of Courts; Duty of Dis-
trict Attorneys; Procedure

Sec. 5. Bringing in Additional Parties

Sec. 6. Forfeiture of Property in Transit

Sec. 7. "Person" Defined

The suits so far brought against the various pharmaceutical associations are all found in section one of the act which reads —

Section 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal; every person who shall make any such contract or engage in any such combination or conspiracy hereby declared to be illegal shall be deemed to be guilty of a misdemeanor, and on conviction thereof shall be punished by fine not exceeding fifty thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

Now the question arises — **Does the Sherman Act apply to the professions and, if so, to what degree and, if not, why not?**

Strangely enough the answer to the foregoing is not easy.

The Supreme Court of the United States has never passed upon the point. Only two cases have ever raised it directly. The first of these was the case of the United States against the American Medical Association (317 U.S. 519) and the second, the case of the United States against the National Association of Real Estate Boards. The AMA case was decided in 1943 and the real estate boards case in 1949.

In neither case was the issue of whether or not professional practice of any profession was subject to the antitrust laws decided.

The circuit court of the District of Columbia definitely held in the AMA case that professions were subject to the Sherman Act but the Supreme Court did not reach this point. It is also interesting to note that the circuit court opinion cited not one single United States opinion in its favor but only British law and opinion to support it.

The Supreme Court of the United States held that it did not need to reach this point in deciding against AMA. The court held that the practices AMA were involved in were outside of the professional practice of medicine and, therefore, subject to the Sherman Act on a pure economic theory. This holding not only did not abuse the theory of the Sherman Act's non-application to the professions but, if anything, supports it.

When the real estate boards case came before the Supreme Court in 1949, the same issue arose as in the AMA case.

It is interesting to note that in both the AMA and the real estate boards cases the federal district court held with the associations.

Once again the Supreme Court of the United States held that it was not necessary to reach the question of the application of the Sherman Act to the professions to settle the main question in the case. It is interesting to note, however, in Justice Jackson's dissent that he used this language — **I am not persuaded that fixing uniform fees for the broker's labor is more to the antitrust laws than fixing uniform fees for the labor of a lawyer, a doctor, a carpenter or a plumber.**

Accordingly, the question of the applicability of the Sherman Act to professionals acting in their professional capacity is still wide open and legally completely unsettled.

Now why is the foregoing important to us? The answer is obvious. The government has not chosen to attack us on the front of our "popcorn and crackerjack" operations. The government has chosen to go to the heart of our professional operations. It has sought to attack pharmacy at the very lodestone of the traditional physician-pharmacist-patient relationship — namely at the point of dispensing prescription drugs.

If you stand idly by and allow pharmacy to be placed in a different category from law, medicine and the like relative to establishing guide lines for minimum professional fees, you commit a grievous professional mistake. You are under a duty to preserve for the people of this country the professional status of pharmacists as members of the healing arts team.

Another most interesting facet of this entire spectrum is the fact that the Department of Health, Education and Welfare believes just as much in your professional status as the Department of Justice feels to the contrary.

In August 1960 the Department of Health,

Education and Welfare published its FDA Leaflet No. 12. Its first page reads as follows:

The Rx Legend

- **Caution: Federal Law** •
- **Prohibits Dispensing** •
- **Without Prescription** •

To a pharmacist, these words on a drug package have a deep significance.

They symbolize his responsibilities as a professional man.

They identify drugs that are not safe for self-medication and legally may be dispensed only on the prescription of a duly licensed practitioner. The licensed pharmacist is the legal custodian of such drugs.

These words, the Rx Legend, thus join the power of the federal law with the ethics of the medical and pharmaceutical professions.

Ethics and law require the pharmacist to refuse to dispense a drug when it would endanger the health or safety of the patient.

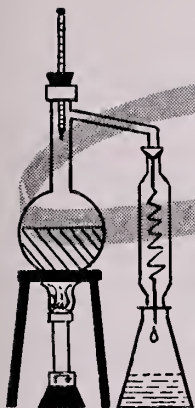
Knowledge, skill and ethics have always been required for safe prescribing and dispensing of drugs. But today the need for ethics is greater than ever because drugs are more potent than ever and the consequences from misuse of drugs are more serious than ever.

A pharmacist is more than a purveyor of drugs — he is a member of the team of experts who have been scientifically trained to provide medical care to the people. As a consultant to the prescriber and the custodian of drugs for the community, he is licensed by law to dispense them according to the prescriber's instructions and the requirements of law.

If we did not have the pharmacist, it would be necessary to invent him.

And if we did not have the Rx Legend it would be necessary to invent it.

In light of the foregoing, American pharmacy should continue to fight to preserve its entity as a profession under the law.



Advances In Drug Research

DRUGS FROM THE SEA*

What may be the world's largest medicine chest remains virtually unopened — the sea.

For years the sea has been the raw material source for ingredients of such family standbys as milk of magnesia, iodine, Epsom salts and bromine drugs. But now comes evidence that the sea may be a nearly inexhaustible source of answers to many medical problems ranging from cancer and diabetes to heart and nerve disorders.

For marine vegetation, subject to the probing glare of the research spotlight, has proved valuable in offering promising new drugs. Clinical tests have revealed that carrageenin, derived from the seaweed popularly called Irish moss, is valuable in treating peptic ulcers. Commenting on the extract's achievements, Dr. J. C. Houck, who led the research that discovered the new application, pointed out recently: "The carrageenin probably coats the lining of the stomach and duodenum in such a way as to inhibit ulceration." A more common use is carrageenin's ability to keep cough medicine in suspension. The "shake-well-before-using" label is no longer needed on many medicine bottles.

Research studies also indicate that various other sea plants have interesting properties, possibly useful to man. Scottish doctors, for instance, have pointed out that an algae derivative, lamarin sulphate, may deserve additional study as an anticoagulant.

Of even greater significance, perhaps, may

be the discovery of a poison called holothurin, derived from sea cucumbers. The poison when applied as an extract under laboratory conditions lowers the growth potential of cells in mouse cancer.

Not only marine vegetation but various fish are providing interesting leads for researchers in cancer chemotherapy. A few years ago at the University of Pennsylvania, it was found that the entrails of puffer fish and certain other marine animals contain material that interferes with normal cell division. Use of the substance in cancer therapy now is under investigation.

Such research may provide the clue to the structure of a chemical that will arrest cancer growth, or discover a cancer-arresting substance. Once the chemical structure of a drug has been determined, research chemists may be able to synthesize it, even introducing variations more effective than the molecule of the natural drug. ACTH, a hormone from the pituitary gland of animals, provided drug researchers with clues to the structure of steroid drugs. The drug manufacturers' products have proved more effective as medicine, have a more certain source of supply and uniformity is assured.

Less exotic a fish than the puffer is the menhaden whose yearly catch runs into billions of pounds. This fish provides a plentiful source of oil from which is derived the highly unsaturated fatty acids now being used for research in atherosclerosis.

*Reprinted from Chemical News, January-February, 1961.

(Continued on Page 410)

PHARMACEUTICAL *Paper*

PROFESSIONAL SERVICE CONCEPT*

by

George B. Griffenhagen**

Washington, D. C.

There is little question but what the public's image of pharmacy has been adversely affected by the Senate antitrust and monopoly hearings and by the suits filed by the Justice Department which reduce the status of pharmacy from a profession to that of a trade. High government officials have publicly implied that pharmacists across the country are engaged in "price-fixing conspiracies." In reply, we answer with a question—Is pharmacy to be denied its traditional heritage and right to practice as a profession? What then is this traditional heritage?

Pharmaceutical service emerged wherever civilization arose because the services of pharmacy stand among the most basic needs of mankind. The pharmacist, as a separate practitioner with recognized responsibilities to the public, appears on the historical stage during the medieval Arab world sometime after the middle of the eighth century. From the thirteenth century in the West (notably

1240) we date legal recognition and regulation of pharmacy as an occupation separated from medicine. And it was from these occupations, regulated by law and organized into guild-like associations, that grew the professions as we understand them today.

The 1240 edict of the German Emperor Frederick II instituted official supervision of pharmaceutical practice and the development of very carefully elaborated lists of governmentally established prices which, up to the present day, regulate the price of drugs in many European countries.

Pharmacy in Great Britain developed controls under a system of powerful guilds. Despite the fact that by the second half of the 17th century, the apothecaries in London had become an extremely powerful and influential group, charges were made in 1670 — for example — that — **Apothecaries put what rates they please on their Simples, Compounds, and Receipts and none are judges of them but those of their own Trade.**

By reason of the Dear Bills of Apothecaries, many are deterred from going to the Physician and run to common Mountebanks

The great charge of Apothecaries Bills, and nauseousness of their Medicines, appear to be

*This is a resume of the Presidential address entitled "The Utility of Pharmaceutical History" presented before the American Institute of the History of Pharmacy at its annual meeting in Chicago in April, 1961. Reprinted from the Journal of the American Pharmaceutical Association, June, 1961.

**President, American Institute of the History of Pharmacy, 1960-61.

the cause why long habitual diseases, as the Kings Evil, Falling-Sickness, Convulsions, Melancholies and Winds in the Bowels become seldom relieved . . .

To these bitter charges the apothecaries replied (also in 1670) — **His business (the Apothecaries) requires the greatest Diligence and Fidelity, in selecting the Drugs, and preparing them faithfully according to the appointment of the Faculty, and in making up the Doses, with that just regard to the Life of the Sick, that all suspicion of the least mistake may be prevented in the Weight and Measure, or Numbers of the Drops.**

Undoubtedly the sting left from the earlier public battle was still evident in Great Britain in 1776, because Adam Smith in his famed "An Inquiry into the Nature and Causes of the Wealth of Nations" devotes a chapter on the "deception arising from our not always distinguishing what ought to be considered as wages from what ought to be considered as profit." He offers this example — **Apothecaries profit is becoming a by-word, denoting something uncommonly extravagant. This great apparent profit, however, is frequently no more than the reasonable wages of labour. The skill of an apothecary is a much nicer and more delicate matter than that of any artificier whatever; and the trust which is reposed in him is of much greater importance . . . His reward ought to be suitable to his skill and his trust, and it arises generally from the price at which he sells his drugs.**

The earliest account book of an American apothecary (Bartholomew Browne of Salem, Massachusetts, 1698-1704) reveals that he placed a fee on his services rendered in providing medication. Examples recorded in the account book reveal that a special fee was placed on providing medicine for "rising past 11 at night."

What appears to have been the first attempt in the U. S. to establish a compounding fee schedule was published by the Massachusetts College of Pharmacy in 1828.

In publishing this fee schedule, the committee of the Massachusetts College of Pharmacy noted — **They cannot but hope, and think, that the prices as here set down, will be followed. This must be for the benefit of all. One evil where there is a difference in prices is, that the purchaser either thinks that**

the one who charged high wronged him as to price, or the one who charged low wronged him as to quality . . .

In 1837, William R. Fisher reported on the progress and status of pharmacy in the U. S. noting that — . . . **a new order of things has sprung up; prescriptions are now being compounded with as much skill, accuracy and neatness, as may be found in any other country on the globe; and from the best regulated establishments, nothing is put up or suffered to go out, without distinct and appropriate label . . . The prices at which medicines are sold, vary considerably in the different cities and are but poor compensation for an industrious, laborious, and conscientious attention to the duties of an apothecary. It is hoped that public opinion will eventually fix the proper estimate upon the value of the species of labour and afford such a recompense as will secure the services of well educated, skillful, responsible members of this branch of the healing art.**

In 1848 the Philadelphia College of Pharmacy promulgated a Code of Ethics, which included the following section — **The apothecary should be remunerated by the public for his knowledge and skill, and in his charges should be regulated by the time consumed in preparation as well as by the value of the article.**

Competition in prices is an integral part of trade and as old as commerce itself. Its advantage to society has its limitations at that point where it becomes profitable only for a certain group of individuals and threatens the actual general economic order upon which society is built. It is this concept that the terms of "fair" and "unfair" trade practices were derived.

However, insofar as the professional side of pharmacy is concerned (as differentiated from the managerial aspects), such competition and "price-cutting" in prescriptions in the 1880's and 1890's was just as dangerous then, as today, to the professional status of pharmacy and even more important, to the public health and patient welfare.

Ninety-seven leading pharmacists in Cincinnati adopted a List of Prices for Dispensing in 1872 similar in format to the list of compounding charges adopted by the Massachusetts College of Pharmacy in 1828. The Cincinnati tariff noted that "the above prices

for prescriptions are intended for inexpensive or ordinary compounds, and are calculated to cover the value of time, labor, skill, excipient and diluent. More expensive ingredients to be charged extra." In reporting on the pioneering effort by the pharmacists of Cincinnati, the Druggist Circular observed that "it will be looked on with interest."

Despite the overlapping of terminology between the business of selling packaged household remedies and the professional services provided in filling prescriptions, pharmacy continued to try to develop a scientific professional fee basis for prescription services. For example, the Minnesota Pharmaceutical Association in 1903 introduced a "prescription pricing schedule" for compounding liquids, powders, capsules, ointments, suppositories, tablets and pills. Despite the fact that the schedule was designed for professional services, such terms as "retail prices" for prescriptions were used by the Minnesota association in explaining the tariffs.

Following the pattern of others, the Pacific Drug Review introduced a "scientific and uniform plan of prescription pricing" in 1931 which is the schedule now under attack by the Justice Department in Arizona, Idaho and Utah. In introducing the new schedule, Pacific Drug Review publisher F. C. Felter noted that "it is imperative that a scientific method of prescription pricing be evolved and put into general use. Every pharmacist should look upon his prescription department as a professional service and add a professional fee to all prescriptions."

Today the charges are "price fixing" for a traditional use of a schedule to guide the establishment of a fee for prescription services. Despite the fact that a review of the past perhaps is the only way one can clearly view the problem at hand, the federal judge sitting at the preliminary hearings of the Northern California antitrust suit stated —

There are no complicated issues of fact in this case as defendants suggest to the court. There is no question here as to the economics of the drug industry, nor is there any question as to whether or not pharmacists are engaged in a profession. Contrary to contentions of defendants, the history and development of the profession of pharmacy is totally irrelevant to the present case.

In history we find at least part of the defense we need.

ADVANCE IN DRUG RESEARCH—

(Continued from Page 407)

Incidence of atherosclerosis may bear some association to a high level of cholesterol in the blood. Current research suggests that a diet confined to unsaturated fatty acids can reduce high cholesterol levels. Such research may pave the way to a better understanding of this form of heart disease which takes a heavy toll in the U. S.

Even poisonous fish may prove human benefactors. From the deadly poison of sea snakes, one researcher, Dr. B. W. Halstead, hopes to learn a good deal about the coagulation of blood, perhaps even develop a new or improved anticoagulant. Also under study by Dr. Halstead is the weever fish and the equally venomous stonefish. Both have hemolytic properties.

Other poisons include that of the toadfish, as well as that of the sting ray which slows the heart and even arrests its beat. Intensive research may provide clues as to how to utilize these poisons in man's behalf. The toadfish venom burns up sugar in the blood, indicating possible beneficial use in diabetic treatment. Further research is expected to confirm or deny the possibility.

So it is that medical researchers and scientists working with plant physiologists and marine biologists are finding that the sea may hold answers to a still healthier tomorrow.

PRESIDENT'S PAGE

Rx



With the advent of autumn we look forward to sunny days, crisp nights, the changing colors of leaves and foliage — to football weather! Football brings thought of homecoming and memories of college days. Why did you decide to attend pharmacy school? Most likely it was because of some pharmacist that took an interest in you; perhaps he gave you a job in his pharmacy, or at least explained the possibilities of a career in pharmacy to you. Have you done as much for some young person? One of the most important things that we could do for our profession, and for the pharmacy school to which we feel allegiance, would be to influence some worthy young gentleman, or young lady, to embark on a career in pharmacy. If our profession is to survive we must have a constant transfusion of young blood. We should be constantly on the alert for worthy young people that we might interest in the profession of pharmacy. You could do both the profession and these young people a good turn by taking the time to explain the opportunities in a career in pharmacy.

Sincerely,

Philip Case

PHARMACEUTICAL NEWS



PHARMACY SCHOLARSHIPS ANNOUNCED AT STATE COLLEGE

Eleven pharmacy scholarships for study during the 1961-62 school year at South Dakota State College have been announced.

R. Y. Chapman, Dean of student personnel, said the scholarships have been accepted by four incoming freshmen at State College this fall with the balance accepted by previously registered pharmacy students.

Recipients of scholarships, according to Floyd J. LeBlanc, Dean of the Division of Pharmacy, are as follows:

Roland Wick and **Marlowe DePauw** both of **Sioux Falls** and both incoming freshmen, will receive \$198 scholarships each as given by Lewis Drug of Sioux Falls. O'Connell Bros. Drug of Ft. Dodge, Ia., sponsors \$150 scholarships which have been awarded **James Stephens** of **Webster** and **Ken Henjum** of **Garretson**, both of whom are incoming freshmen at State College.

Oscro Drug, Inc., of Chicago is sponsoring scholarships of \$280.95 each for **Douglas Kapaun**, **Sioux Falls** sophomore,

and **Lola Schuman, Stratford** junior; a \$198 scholarship for **Robert Schnell, Sturgis** sophomore, and a \$150 scholarship for **Richard Kingdon, Huron** sophomore.

Scholarships of \$200 each as sponsored by the American Foundation for Pharmaceutical Education, Washington, D. C., have been accepted by **Marlene Wallace, Britton** junior, and **Sharon Larson, Wakonda** senior.

Marcia Teig, Highmore junior, has accepted a \$100 scholarship given by Rowell Laboratories of Baudette, Minn.

AMERICAN COLLEGE OF APOTHECARIES RELEASES SURVEY

The Ninth Annual Survey of Operating Costs of Prescription Pharmacies has been released by the American College of Apothecaries. This year's survey represents the detailed reports of 164 prescription pharmacies and points out the differences which exist in the operating costs of the prescription pharmacies as compared to those of pharmacies offering a broad line of products in

addition to prescription services.

In a comparison of identical pharmacies, the survey revealed a slight increase in total sales but an actual decline of 1.3% in the total number of prescriptions filled. Actually in the pharmacies surveyed, new prescriptions fell 5.4 percent. However, refills showed an increase of 2.9% and the continued significance of refills became even more apparent with the number exceeding new prescriptions by a considerable margin.

Despite an increase in gross margin in these pharmacies, operating costs increased at a greater percentage and thus total return to the owner was reduced 1.7% and represented 11.2% of total sales. This figure includes both owner's salary and net profit.

The prescription charge increased 2.9% for the year and showed to be an average of \$3.46. Several new areas were explored in this year's study including an analysis of so-called fringe benefits which are made available to employee pharmacists. It is hoped that the figures de-

veloped will prove valuable to the individual pharmacist.

Copies of the survey are available to all pharmacists and can be obtained by writing to: American College of Apothecaries, Hamilton Court Hotel, 39th and Chestnut Street, Philadelphia 4, Penna.

BIOSYNTHESIS OF ERGOT ALKALOIDS

Dr. Varro E. Tyler, Jr., of the University of Washington School of Pharmacy, reports in the August 1961 issue of the **Journal of Pharmaceutical Sciences** that, from the commercial viewpoint, the problem of the biosynthesis of the ergot alkaloids "is very near to a solution." In fact, says Dr. Tyler in his scholarly review article, it is possible that the solution already has been achieved.

However, the reviewer cautions that from the scientific viewpoint, what he calls the "ergot problem" still is in its infancy. But Dr. Tyler predicts that if the next ten years are as fruitful of results as the last have been, then "such problems as the biosynthesis of the peptide portions of the water-insoluble alkaloids may give way to scientific effort." He also says that indirect contributions to knowledge as a result of such research may be even more important. As an example, the reviewer mentions that the disclosure of the participation of mevalonic acid in the biosynthesis of an alkaloid already is of more importance as a generality than as a specific fact.

Dr. Tyler, after checking the results of many previous experiments in the Drug

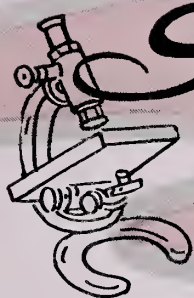
Plant Laboratory of the University of Washington, painstakingly analyzes the results of earlier work in this field. The review discusses the experiments of more than thirty researchers, beginning with the discovery of agroclavine by Matazo Abe of Japan in 1948. This discovery, together with the later disclosure of a series of clavine alkaloids, made untenable the theory formerly held that defined ergot alkaloids as compounds which give rise to lysergic acid on alkaline hydrolysis.

Professor Tyler, in closing his review of the biosynthesis of the ergot alkaloids, remarks that the experiments reveal that "ergot, like a few other natural products, particularly wine and cheese, has been found to improve with age."



A CARD TOO BIG FOR HIS WALLET

John R. Norpel (left) the one-millionth federal employee to choose Blue Cross and Blue Shield hospital and medical protection is being assisted by Walter J. McNerney, president, Blue Cross Association (center) and Dr. William H. Howard (right) president of the National Association of Blue Shield Plans in an attempt to get the symbolic identification card into Mr. Norpel's wallet. In a special ceremony in the Senate Dining Room, officials of the State Department where Mr. Norpel was recently employed, Congressional leaders, the two national presidents honored Mr. Norpel as the one-millionth federal employee to choose Blue Cross and Blue Shield from the thirty-eight carriers of health benefits available to them. Speakers at the luncheon pointed out that this represented the largest segment of an employed group in the world buying health benefit from a single source. Since the coverage Mr. Norpel chose includes his wife and two daughters, they represent more than 3,200,000 people protected in the federal employee Blue Cross and Blue Shield group.



Scientific

PAPER

Problems in Diagnosis of the Central Nervous System Virus Diseases

by

**Floyd C. Bratt, M.D., President
The American Academy of
General Practice**

In the past decade more than 100 new viruses of all types have been discovered. This explosive growth in knowledge was quietly ushered in by the work of Dalldorf and Sickles in 1948 when they described a new virus group, the Coxsackies. These enteric agents were soon followed by the discovery of another group of enteric viruses, the so-called "orphan viruses." Since initially no clinical disease was recognized as associated with this latter group of viruses, they were really "viruses in search of a disease," hence orphans. Later the term was refined to "Enteric Cytopathogenic Human Orphans" or simply ECHO viruses.

These new viruses are numerous. What is more, they are now known to cause much human morbidity, if relatively little mortality. For the general physician, the advent of the viral era has posed difficult problems in diagnosis. In the furor of discovery, some surprising things have been brought to light. It is with some trepidation that we who are faced with the daily problems of diagnosis have been told that healthy human beings — people who show no clinical signs of illness at all — usually harbor a host of viral agents. What this can mean to us in diagnostic terms is that a person's complaints and the viruses found in him sometimes may not be related

Presented at the Annual Meeting of the Medical Society of South Dakota, May 11, 1961.

in a cause-and-effect relationship at all. To make matters even more difficult for the harried physician, we have been told that a particular virus may be able to induce several quite different symptom complexes.

Many of these viruses can produce aseptic meningitis, diarrhea, encephalitis or acute respiratory diseases that range in severity from mild illness to severe pneumonia. Cocksackie infection in late pregnancy, although rare, can have profound effects on the fetus and produce neonatal encephalitis and myocarditis.

I shall not begin by attempting to classify the viruses. Virologists themselves decline to get too specific about classification. They feel that a nomenclature is decidedly premature at this explosive stage of viral discovery. And besides, mere classification is of no help diagnostically, and that is my topic.

What then, you may ask, is of help in making a diagnosis? The greatest diagnostic tools at the command of the family doctor are two quite elementary pieces of information — one, the season of the year; two, the current patterns of disease prevalence in his community. For the first, all he need do is look out the window. For the second, he has probably already had a fair sampling of disease prevalence walk right through his door in recent weeks. But to be a bit more certain about what kind of bug is “going around” one does well to call up the pathologist in his hospital or chat briefly with the health officer in his community.

With this as a backdrop, I would like to discuss a number of central nervous system virus diseases. It would be simply foolhardy to attempt to do a definitive job on each virus. A copy of Rivers' and Horsfalls' **Viral and Rickettsial Infections of Man** or another good reference on the subject should be a must on your office bookshelf. Trusting to memory is trusting to luck. And as you well know, bad luck is bad medicine. When something comes into your office that looks at all viral, the only sensible course of action is to do some careful digging afterward.

With that, let me begin by planting one distinction that may be helpful to you. It is this: The major viral lesions of the central nervous system can be divided, for clinical purposes, into two categories — one, the aseptic menin-

gitis syndrome; two, true parenchymal encephalitis. There is some overlap to be sure. Furthermore, the two can be easily confused in their early stages. As much could be said for a number of bacterial, fungal and parasitic diseases, since they too can affect the central nervous system. A detected brain abscess is, of course, an encephalitis without question.

COXSACKIE VIRUSES

I will begin by discussing the Cocksackie viruses. There are at least 20 antigenic types of Cocksackie virus. Group A types are characterized by a herpangina whose incubation period ranges from one to nine days. Symptoms include a fever ranging from 100° to 105°, anorexia, myalgia. Greyish-white papulo-vesicular lesions of one to two centimeters are seen with erythematous base in throat, the posterior of the mouth, the anterior pillars, tonsils, the pharynx and the soft palate. Dysphagia may be marked. The illness lasts a few days.

There appears to be little cross immunity among Group A Cocksackies. It occurs in outbreaks during the summer and chiefly affects children from one to six years old.

Four cases of parotitis with herpangina were recently described. It would be easy to confuse these with mumps except that the swelling is less apt to be tender. Tests isolated Group A Cocksackie viruses from the saliva of all four cases, while tests for mumps and herpes simplex were negative.

Group B Cocksackie viruses display the typical syndrome of aseptic meningitis and epidemic pleurodynia. They have also been identified in cases of fatal myocarditis in newborns. The incubation period is from two to four days and the duration of the illness lasts several days to three weeks. Both symptom complexes can occur in the same person; they include headache, stiff neck, chest or abdominal pain which is aggravated by respiration and movement. There may also be nausea, vomiting and fever.

The virus is isolated from stools or the cerebrospinal fluid in tissue culture and the titer rise is checked by a neutralizing test against the strain isolated in tissue culture.

ECHO VIRUSES

I have mentioned the ECHO viruses briefly before, but I think it would be useful to review them in a little more detail at this point.

Over 20 different antigenic strains of ECHO viruses are now known.

It is now recognized that various strains of ECHO virus can cause aseptic meningitis. The virus has also been associated with outbreaks of diarrhea, particularly in hospital nurseries, and febrile illnesses involving the respiratory and enteric tracts. Any of these illnesses may show themselves with skin eruptions depending on the strain responsible for the disease. Paralysis has been associated with a few cases of aseptic meningitis due to the ECHO virus. Again, I would like to emphasize that clinical findings are not adequate to establish an etiologic diagnosis. Evidence is visually necessary for this.

POLIO

Let's get into classical paralytic poliomyelitis next. As you know, it is less and less common today. This doesn't mean that it can be forgotten. Vigilance will be needed for many years to come. Each time a case of true paralytic polio is recognized, a pointed lesson in the vital importance of immunization is pressed home.

The spectrum of polio is broad. Probably not one in a hundred infected with polio virus shows any clinical sign. Many persons get no more than a mild, febrile disease and display no localizing signs. A few people will have the common reddened throat and malaise. But so too will those people who have no more than an upper respiratory infection.

One syndrome that is increasingly recognized is aseptic or abacterial meningitis. With this, there may be nothing more than a headache or stiff back to give the physician his first hint. Unless a spinal tap is done, the incidence of aseptic meningitis is easily underestimated. Typically, the cerebrospinal fluid shows a few mononuclear cells — a pleocytosis of usually less than 200 cubic millimeters and an increased protein. There is no paralysis and usually a benign course follows.

As you are aware, these cerebrospinal fluid findings can also be found in an early poliomyelitis. Such findings do not by themselves give a precise diagnosis as to cause. However, if you know that aseptic meningitis is prevalent in your area at the time and that polio is rare, you may find some reassurance that the symptoms reflect a benign illness.

The etiology of the aseptic meningitis syndrome is practically indefinable on clinical grounds alone. For some years we called it non-paralytic poliomyelitis, but that term has become less and less popular, and with good reason. Why? Simply because more clinicians now recognize that this same syndrome may be caused by a number of agents — poliovirus, Coxsackie viruses, ECHO viruses, mumps and herpes simplex, to name only a few.

I have spoken of the aseptic meningitis syndrome in terms of its various agents. Recently, however, true classical paralysis with residual effects has occasionally been found to be caused by agents other than the poliovirus.

MUMPS

Mumps parotitis can usually be diagnosed with fair accuracy by clinical observation alone. This is particularly true when mumps is epidemic. However, the diagnosis of sporadic cases of mumps can sometimes prove a diagnostic headache because a variety of other agents can produce an enlargement of the parotid.

When there is little or no salivary gland involvement and when other organ systems are involved instead, it is often impossible to diagnose on the basis of clinical findings alone. Thus an aseptic meningitis or meningoencephalitis associated with an infection with mumps virus may be clinically indistinguishable from one due to any of several other viruses.

However, it is possible to get serologic evidence of any infection caused by mumps virus. Testing paired sera for a rise in complement fixing or hemagglutinating antibodies can confirm your diagnosis.

INFECTIOUS MONONUCLEOSIS

Now I would like to touch on some of the diagnostic problems involved in real or suspected cases of infectious mononucleosis. As you know, infectious mononucleosis is believed to be due to a virus although the agent has never been isolated. The disease is primarily a young people's malady. Its occurrence can be acute or subacute. It is usually characterized by an irregular fever, a sore throat, lymph node enlargement, a typical blood picture, the presence of a heterophil-antibody in the serum, abnormal liver function and sometimes jaundice.

Infectious mononucleosis displays extremely variable clinical signs. It has several features in common with a large number of other diseases. Because of these factors, the serologic test properly performed is an especially valuable diagnostic tool.

The disease may be confused with infectious hepatitis. Liver involvement may, in fact, be present in both conditions. During the early stages of infectious hepatitis it is rather common to see a blood picture not unlike that of infectious mononucleosis. When such confusions occur, the trick of differentiation rests with the laboratory, not the clinician. The serologic test is particularly valuable in these instances, because sheep cell agglutinins do not reach diagnostic titers if the disease happens to be infectious hepatitis.

There are a number of other diseases which may be confused with infectious mononucleosis. I shall only tick them off briefly, to give you some hint of the panoramic possibilities that you need to be on the lookout for — Vincent's angina, diphtheria, herpetic pharyngitis, aphthous stomatitis and, more commonly, acute follicular tonsillitis. Other conditions which can produce lymph node enlargement include tuberculosis, Hodgkin's disease, mumps and sometimes syphilis. Some of the rash-producing diseases, notably German measles and a few ECHO infections, have been confused with infectious mononucleosis. Also to be considered is serum disease and reactions to drugs. Nor should the physician forget that acute infections of the central nervous system, particularly the group known as aseptic meningitis, display signs that can be confused with infectious mononucleosis. Another condition to be considered is acute infectious lymphocytosis, a disease usually but not always confined to children.

ARTHROPOD-BORNE ENCEPHALITIS

In the United States, three viruses have been identified as causing arthropod-borne encephalitis in humans; i.e. Eastern encephalitis, St. Louis, and Western equine encephalitis. Western equine encephalitis has been found mostly in states west of the Mississippi. I would guess that South Dakotans have seen some of it at one time or another.

Present knowledge indicates that the only way for man to become infected is by the bite of an infected mosquito. The incidence is seasonal. Most cases are seen in late summer

or fall. Persons of all ages may become infected, but most cases occur in the extremes of age. The incubation period is from five to 20 days. Fatality ranges from five to 75 per cent.

The signs and symptoms run a full gamut. At the milder end of the scale you will see inapparent infection causing headache, fever, malaise, nausea and vomiting. At the other end of the clinical spectrum you see steady progression from headache, fever and stiff neck, to lethargy, confusion, stupor, coma and death. In children, convulsions may occur with the acute disease. In most cases, recovery is complete, but some persons may be left with residuals of mental retardation, convulsive seizures, spasticity or mild evidence of neurologic damage. Paralysis is uncommon.

Confirmation of your clinical diagnosis may be obtained by a laboratory test which demonstrates a significant rise in the level of complement fixing, hemagglutination inhibiting, or neutralizing antibodies. Antibody titers must be compared in acute and convalescent sera. The acute specimen should be obtained as soon as possible after the onset of illness. The convalescent specimen can be obtained about three weeks later. Although these viruses have been isolated from blood and spinal fluid during acute illness, isolation of the virus is not usually attempted as a routine diagnostic procedure.

HERPES SIMPLEX

The herpes virus group contains two agents. One of these is herpes simplex. This organism induces some of the most common human viral diseases. It is also believed to be carried in a latent state by about 90 per cent of persons.

The other agent has been designated varicella-zoster virus. You are probably aware that a long conflict has brewed regarding the probable relationships between varicella and herpes zoster. Present thinking leans to the belief that both are caused by the same agent.

DISCUSSION

Why are virus diseases the most unmanageable of all infectious processes? One answer to this about which we are all too well aware is that modern chemotherapeutic agents are in general not effective against the viruses. No drug that we have will significantly alter the clinical course or lower the mortality rate

of the virus diseases. The same lack of efficacy is displayed by convalescent sera, hyperimmune sera or gamma globulin; none provide any clear benefit once a viral disease has become clinically evident.

Let us for a moment, zero in on the more specific reasons why our present drugs are not effective against the viruses. Having done this, we can then sketch out what hope research holds for better management of the viruses in the future.

First of all, it is to be remembered that viruses multiply inside living cells. You will also recall that viruses cause two effects in cells — cell damage and, less commonly, cell stimulation. The latter, of course, leads to abnormal growth. In either case, the presence of infection is not suspected until abnormalities have developed in a very large number of infected cells or in a high proportion of cells that serve a specific physiologic function. This means that the damage has been done by the time the person realizes something is wrong with him and goes to see his physician.

In order to treat the virus diseases effectively, it must first be possible to modify or reverse viral reproduction within the cells. Attempts to do this have failed. The reason for failure is that we do not as yet have a clear enough idea of the biochemical dynamics of cell damage by viruses. This has meant that researchers have had to proceed on an empirical basis which has so far been unsuccessful.

Several chemical substances have been discovered that potently inhibit virus reproduction in animals. But their activity is mostly limited to the relatively brief period of latency when the viruses are multiplying in the cells. Some of these chemical compounds inhibit the synthesis of that essential macromolecule, nucleic acid. Others inhibit the synthesis of protein. As you might expect, none of these chemical compounds is wholly free of toxic effects on the host cells themselves. But even if non-toxic chemicals were found, there is good reason to question how effective they would be once clinical disease becomes manifest. Such chemicals would be most useful if given during the incubation period of the virus. This being so, these chemicals would then be considered as being

chemoprophylactic and not chemotherapeutic.

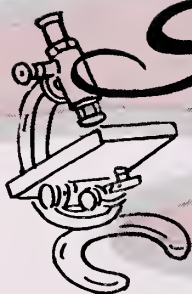
Is there reason to hope for progress in viral disease treatment? I believe so. It is man's unique function to hope, to dream and finally to achieve. In the great span of time, we have been aware of the viruses for only about a half century. There is no compelling reason why we should regard the viruses as beyond human understanding and management.

And certainly it is against the virus diseases that vaccines have manifested some of their greatest effectiveness. Also, most of the viral diseases I have been discussing are self-limiting; they cause little mortality and do not often leave residual disabilities. Thus, whether they are ever treatable or not is not of earth-shaking importance; it would merely be nice to be able to treat them.

Meanwhile, medical progress is giving more hope. If this meeting were being held in 1951 instead of 1961, many of the things I was able to say here today could not have been said; they were simply not known in 1951. The accelerating achievements of the last decade offer grounds for new optimism. It is difficult to speculate how much more we shall know in 1971. But I think it certain that our knowledge will be well advanced beyond what we know today. Personally, I have no doubt that our colleagues at the laboratory bench will find out how the viruses can be dealt with. When they do, medicine will have achieved another magnificent victory and mankind will again triumph. And we on the front lines of medicine shall be privileged to deliver the goods on the raw edge of human need — our patients. Medicine is a grand adventure, isn't it?

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Scientific

PAPER

THE ALCOHOLIC AND THE FAMILY PHYSICIAN

by

Beverley T. Mead, M.D.¹

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For over two years the University of Utah has sponsored hundreds of informal, local psychiatric seminars for physicians in the intermountain area. "What can I do for the alcoholic?" was a frequent question, but one of the most difficult to answer. There is no denying that the prognosis is poor, the lack of cooperation discouraging, and feelings of resentment and bitterness in the physician are easily aroused. Nevertheless, no physician can dismiss the problem without some attempt to rehabilitate the patient. Extra effort is justified since the occasional success is tremendously important in terms of human dignity, manpower, and money saved.

From the discussions evolved some specific ideas on caring for alcoholics. The following points were generally agreed to be most important.

1. A simple working definition is that a man who allows alcohol to interfere to a serious degree with his health or with his social, financial, or domestic life, may be regarded as an alcoholic. Such a definition, however, has value chiefly to the physician. When the alcoholic is unwilling to accept his diagnosis, it does little good to insist on applying any definition. Arguing with an alcoholic accomplishes nothing. It is often best to avoid the definition, simply stating: "Your

drinking's getting pretty heavy, is causing some difficulty; let's figure the best way to have you quit. As is also true with smoking, it's hard to ride the fence, so you'd better figure on cutting it out entirely."

2. Certain misconceptions about alcoholics trouble some physicians. Alcoholics do not come just from low socio-economic groups, but from a wide cross section of society. On the average they are probably normal, if not better than normal, in intelligence. They are often well-educated, and except for their drinking, may be considered as very conscientious, capable individuals. Their alcoholism is not invariably associated with other neurotic or psychotic problems; not infrequently the alcoholism itself is the only manifestation of maladjustment. Finally, the alcoholic cannot be cured by "cutting down." He can't take "just one drink." It must be considered an all or none situation.

3. There appears to be no clear-cut basic personality type or consistent psychodynamics in alcoholism, although many investigators agree that it is seen more frequently in the individual with deep feelings of inadequacy and dependency. Further, he usually has strong needs to deny this and present to himself and to the world an air of capability, self-assurance, and affability. In inebriation this defense may be exaggerated to the drunken swagger or the proverbial challenge: "I can lick anyone in the house." The importance of recognizing this common trait leads to an understanding that the alcoholic does have a need for his bottle and behind his false sophistication, is often a sensitive soul, easily hurt, easily depressed.

4. Classic psychotherapy which stresses investigation of man's inner needs fails with alcoholics since their sensitivity must be defended. Insight cannot be tolerated. Treatment which stresses new ways of dealing with the environment, or alterations in the environment itself, is the best form of psychotherapy.

5. The vigorous, constant attempts by temperance and religious groups to salvage the alcoholic have met with relatively few results. By contrast, Alcoholics Anonymous has rehabilitated many thousands. The explanation for the difference is simple. The A.A. offers a positive program, a working philosophy of life, new friends, new activities, new sources of satisfaction, a feeling of ac-

ceptance and belonging, and a step-by-step program to maintain sobriety. The temperance method is too negative, emphasizing what one gives up rather than what one gains.

6. Obviously, the best therapy any physician can offer his alcoholic patient is to persuade him to affiliate with A.A. Short of this, he may attempt therapy emulating the A.A. program, and including acceptance, understanding, opportunity for the alcoholic to express his feelings without being criticized, and making plans for activities which remove him from scenes of temptation and at the same time offer emotional satisfaction and heighten self-esteem.

7. Many an alcoholic says, "I guess you're right, Doc; I'll give A.A. a call. I've nothing to lose." But after walking out of the doctor's office with the best of intentions, the alcoholic more often than not, talks himself out of it. It is understandably humiliating to go to a stranger and plead inability to manage one's own problems without help. Every physician should have the A.A. number available and when the patient is interested, present him with the phone and have him call from the office. If the physician personally knows a member of A.A. he may help the hesitant patient by saying, "I've got a friend who's a member. He can tell you more about the organization, explaining details that I really don't know. It would be a favor to him and to me, and put you under no obligation, if you'd let me call him and ask him to drop over and see you here, or meet you later at your convenience."

8. The physician is occasionally asked to speak to A.A. groups. Whenever possible, he should accept. Whatever he has to say is perhaps less important than the fact that he is lending visible moral support, a professional stamp of approval, and an element of additional prestige that will enhance the morale of the group. Avoid discourses on dynamics which will only upset, and rarely reassure. Discussions on the physiological effects of alcohol are always appropriate; discussions of treatment methods such as Antabuse, aversion conditioning, or hypnosis may be given. Always most important are some simple words of commendation and reassurance.

9. Some physicians are dismayed by A.A.'s concept of the alcoholic as suffering from an allergy. True, an allergy in the customary

medical sense may not be present, but the concept has value and meaning to the alcoholic and there is little purpose in disillusioning him by presenting evidence more semantic than practical.

10. In treating alcoholics the physician's biggest handicap is often his own feelings. He must carefully resist the urge to belittle, shame, criticize, or get angry with the drinker. One may be certain that the alcoholic has been condemned countless times before without results. In following the same pattern, the physician only confirms in the alcoholic's mind the feeling that he is unwanted and unrespected.

11. The physician must accept limited goals. Rarely is an alcoholic's first attempt to maintain sobriety successful. The majority of drinkers have repeated slips, sometimes after months or years of sobriety. In brief, the physician who works with a patient, keeps him sober for two weeks, only to have him go on a binge, would do well to regard this not as failure, but as two weeks of success.

12. Too frequently the physician hides behind the feeling: "I'm wasting my time because this alcoholic does not really want help." Actually an alcoholic will never be found who does not in part wish to continue drinking, and in part wish to stop. If there were no mixture of forces present, he would simply not be an alcoholic, and would certainly need no help in stopping drinking at any time. The physician will always find some part of the patient's personality opposing him. He must align himself with and help strengthen the forces within the individual which seek for habit control.

13. Medications often have great value to the physician in helping the alcoholic. Carefully selected and controlled tranquilizers may take the edge off the alcoholic's anxiety or depression which threatens to make him desert his sobriety. Physicians are now aware that some danger of starting a substitution habit exists, but with reasonable caution this can be avoided. The newer agents are not as dangerous as their forerunners, the barbiturates, and other potent sedatives. Antabuse or Temposil often serve as a useful and appropriate crutch which the physician may have the alcoholic use in his first difficult weeks of maintaining sobriety. These agents, which actually interfere with the normal

metabolism of alcohol, are also not without danger when improperly used, but the majority of physicians are now quite familiar with their application, limitations, and values.

Depression often becomes a force defeating sobriety. Physicians have recently noted that in selected cases where this is a serious complication, some of the specific antidepressant medications are very valuable.

14. When office treatment proves hopeless, the physician may resort to hospitalization. Patients who can afford private care have often found support with the aversion or conditioned-reflex treatment of alcoholism. Since it occasionally succeeds where other methods haven't, it is worth a trial for the conscientious fighter of his habit who has been discouraged by repeated failures. Commitment to an institution is too frequently used only to satisfy resentful feelings on the part of the family and physician. Under such circumstances, it is rarely helpful. Otherwise, when done as a constructive step with the alcoholic's understanding that it is a move based on necessity and continued hope, rather than rejection, it may succeed as an additional deterrent where other methods may fail.


15. What may seem like a recent innovation — hypnosis — has been tried off and on for many years for the control of drinking. One hears of occasional remarkable success. Unfortunately, one does not hear so often of the failures. Hypnosis by a specially-trained physician may, like aversion treatment, Antabuse, and commitment, act as an important adjunct. At the present stage of knowledge in the use of hypnosis, it should not be considered as more effective than the other procedures.

16. A special problem is the wife of the alcoholic who seeks advice for her totally uncooperative husband. The simplest, and most effective advice that the physician can give is the following: First, at least try appealing to your husband with gentleness. He has undoubtedly long since learned to ignore the condemning, resentful approach. Admittedly, even gentleness has little hope for success, but at least it should be tried. Second, if it fails, the wife can present a "regretful ultimatum" — not a threat but a statement — that at some specified date a month or two in the future, if drinking continues, the wife will leave. This allows the alcoholic an ade-

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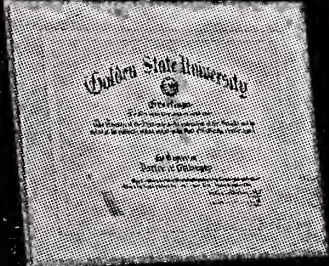
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quate period of time to change his uncooperative attitude. The wife should name a specific date for departure, but make no definite statements about how long she may be gone and whether or not divorce is being considered. Third, with no response to the ultimatum, the wife leaves. She may maintain correspondence with the husband, but should avoid all personal contact for at least a three-month period. Three months is sufficient time to have the husband realize that the separation is serious. Fourth, if the separation period has had no effect on the drinker, the wife can assure herself that she has done all she reasonably can to encourage his recovery, and having now realized what it is like to live without a husband, can simply continue to do so, or else return and accept a drinking husband.

17. Finally, the unhappy, unavoidable problem: What about the alcoholic who refuses and resists all offers of help, makes no effort on his own behalf, and must eventually be considered, for practical purposes, as incurable? In such cases, the pragmatic physician may apply the philosophy that if a problem cannot be solved, it is better to accept it than to live in the continuing agony of resentment, frustrated good intentions, and anxiety of useless opposition. Not only for his own sake, but for the alcoholic's family and friends, this philosophy becomes necessary and the physician does better in such cases by turning his attention from the alcoholic to the family, helping them to find their best adjustment with a problem which they may simply have to accept and live with indefinitely.

DOCTOR DIPLOMATS

Five physicians from Tulsa, Oklahoma, members of the First Presbyterian Church of Tulsa, are giving up their practices for six-week periods to serve voluntarily at the Miraj Medical Center in Miraj, India.

Dr. C. S. Lewis, one of these five Tulsa physicians, recently reported to the A.M.A. on the progress of the project labeled "Doctors in Asia."

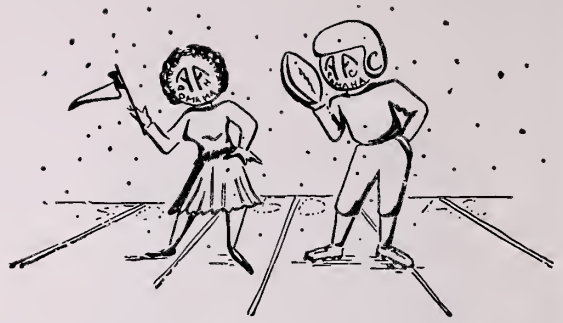
The first of the group of volunteer physicians flew to Miraj in mid-August. He will return at the end of September and the next doctor will make the trip. In all, the five physicians will donate a total of thirty weeks

to the program. The project is endorsed by the Tulsa County Medical Society. Funds for medical equipment, transportation and other expenses were raised through church and public contributions.

Other groups of American physicians are also becoming interested in the possibility of initiating a similar venture in their own communities. For example, several doctors met with Doctor Lewis during his A.M.A. visit to discuss the feasibility of adopting an overseas program which would provide medical care to another area of the world equally in need of such assistance.

Still another example of American physicians demonstrating their interest and willingness to serve in foreign mission fields on a temporary basis is shown by the large number of doctors who have written to the A.M.A. Department of International Health in the last few months to inquire about such service.

Physicians interested in volunteering for such service are asked to write directly to the A.M.A. Department of International Health, 535 N. Dearborn Street, Chicago 10, Illinois.



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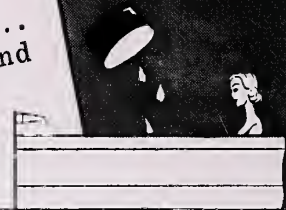
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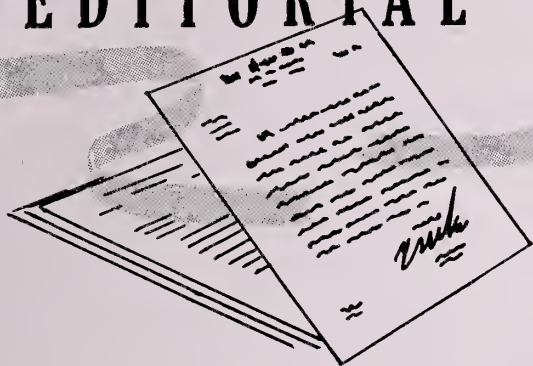
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EDITORIAL PAGE



MEDICAL CARE DURING DISASTER

There is "no place to hide" from the massive destruction of a thermonuclear attack on this country. Preparation for such an event will save 75% or more of the exposed population; non-preparation will probably result in immediate and/or delayed destruction of 75 to 95% of those exposed. Those who survive can, and must, be an effective fighting and working force. The attitude that there is no use in preparing leads to defeat — the kind of defeat that Mr. K. wants — a defeat without war.

The methods of preparation for survival have been investigated and stated after sincere and thorough research, principally by Civil Defense authorities and the A.M.A. Council on Disaster Medical Care. The information is available. When will the apathetic population (including physicians and paramedical personnel) avail themselves of the knowledge and act accordingly?

In the event that we are fortunate and there is no thermonuclear attack upon this country, the knowledge gained by all on disaster medical care will prevent casualties from natural disasters. Natural disasters will always be with us. Hurricane Carla (Sept. 1961) is an example of excellent preparation for natural disaster which led to preservation of life and minimal casualties. The amount of

time available in most natural disasters for preparation may not be as long as most people had with Hurricane Carla.

The principles of disaster medical care can be simply enumerated:

1. Planning.
2. Organization.
3. Provision of supplies.
4. Testing of plans (training).

This must be a local function because factors differ over the country. However, it has been repeatedly shown that no plan works unless people are familiar with it and have had experience implementing it. How many states, local governments, and hospitals have plans and supplies for disaster medical care filed away and really inoperable because of unfamiliarity?

The statements often heard, "call when you need us," "we'll be there and ready when needed," "we don't need training because we had plenty of experience during World War II," are invalid. During any disaster, organization and utilization of facilities and personnel are necessary for maximum efficiency to rehabilitate the most people. In too many instances full utilization does not occur, despite plans, because all concerned did not attend training sessions (testing of plans).

Learning about disaster medical care, and constantly relearning because of the changing characteristics of the type of disasters which might be encountered, preparing for disaster, and testing our preparations will produce confidence in our ability to survive. Such confidence is the best security we can obtain for the future.

Robert F. Thompson, M.D.
Medical Education
for National Defense
State University of South Dakota
—Medical School

AMA CLINICAL MEETING IN DENVER TO FEATURE STUDY OF INFLUENCE OF HEREDITY ON DISEASE

A study of heredity as it relates to human ills will be presented as a feature of the 15th annual clinical meeting of the American Medical Association Nov. 26-30 at Denver.

Geneticists are rapidly advancing fundamental knowledge in this highly important medical field. This new knowledge will be passed on to clinicians for their guidance in practice.

"Genes, Chromosomes and Human Disease" will be the general subject of the section, under chairmanship of Leroy J. Sides, M.D., of Denver.

Theodore T. Puck, Ph.D., head of the department of Biophysics at the University of Colorado, will relate some of his new research findings in a paper entitled "The Gene and the Protein Molecule."

John H. Talbott, M.D., of Chicago, editor of the Journal of the American Medical Association, will deliver a paper on "Gout" as a part of this section.

Much has been learned by the specialists in space medicine that will be of value to the practicing physician in treating patients who seldom get off the ground. This knowledge also will be presented in a section in space medicine at the meeting.

"The Impact of Space Medicine Research on General Medicine" will be presented by Hubertus Strughold, M.D., Ph.D., advisor for research to the commander, Aerospace Medical Center, Brooks Air Force Base, Texas.

An interesting series of papers will be presented at special breakfast programs Nov. 28-29.

A series of color television programs during the meeting will include such subjects as "The Art of Psychiatric Interviewing," "Resuscitation of the Newborn," "Total Abdominal Hysterectomy," "Primary Dermatologic Disorders" and "Dermatologic Manifestations of Systemic Disease."

Also scheduled is an outstanding program of medical motion pictures to be screened daily during the sessions.

THE MONTH IN WASHINGTON

The American Medical Association and the federal government declared all-out war on medical quacks and charlatans who bilk the sick and gullible of hundreds of millions of dollars each year through useless gadgets, phony nostrums, fake reducing pills and the many other gimmicks of the medicine show trade.

The campaign was launched at the First National Congress on Medical Quackery, under joint sponsorship of the A.M.A. and the U. S. Food and Drug Administration, Oct. 6-7 at the Sheraton-Park Hotel in Washington.

Among the keynote speakers were two top officials in President John Kennedy's cabinet, Secretary of Health, Education and Welfare Abraham A. Ribicoff and Postmaster General J. Edward Day. Leonard W. Larson, M.D., President of the A.M.A., and Oliver Field, Director of the A.M.A. Department of Investigation, spoke for organized medicine.

Others on the program included Herbert J. Miller, assistant U. S. attorney general in charge of the criminal division; George P. Larrick, commissioner of the FDA, and Paul Rand Dixon, chairman of the Federal Trade Commission.

Other speakers included representatives of the American Cancer Society, the Arthritis and Rheumatism Foundation, and the National Better Business Bureau.

C. Joseph Stetler, director of the Legal and Socio-Economic Division of the A.M.A. presided at the meeting.

Many state and county medical societies from throughout the nation sent representatives to the Congress. They carried back to their societies plans for cooperation with enforcement agencies at the local level and for a step-up of public education on the subject in an accelerated campaign against quacks.

MEDICAL LIBRARY BOOKSHELF



Leonard D. Heaton, Lieutenant General and Surgeon General of the Department of the Army, recently sent this library a gift copy of Preventive Medicine in World War II entitled, "Communicable Diseases Transmitted Through Contact or by Unknown Means," which is the 16th volume of the History of the Medical Department, U. S. Army in World War II. We are indebted to the Surgeon General for sending us all 16 volumes for our Medical Library collection.

The importance of these volumes is indicated by a statement made by Surgeon General Heaton in the letter written to accompany this gift volume: "Because of general lack of knowledge of the medical history of World War I, many of the lessons so painfully learned in that War, as you know, had to be relearned in World War II. We cannot permit this situation to recur in another war. I believe that it will not if the medical profession makes careful use of the volumes of the history of World War II, and appreciates the fact that a great deal of knowledge that will be needed in the event of another war can be found in these volumes, which also contain much that is useful in the civilian practice of medicine and surgery and in the management of major disasters of civilian life."

Some of the titles of the earlier volumes which we have found particularly useful in our Medical Library are Neurosurgery; General Surgery; Ophthalmology and Otolaryngology; Hand Surgery; Physiologic Effects of Wounds; Vascular Surgery; Environmental Hygiene, and these later volumes on

communicable diseases.

Volume IV of Preventive Medicine, published in 1958 on communicable diseases, contains those transmitted through the respiratory tract and a third volume now in preparation will deal with arthropod-borne diseases. The latest volume, published in 1961, which is Volume V of Communicable Diseases and Volume 16 of the set, was prepared by 27 doctors who had experience with the illnesses among the fighting forces in World War II. This provides information about communicable diseases through contact by unknown means, including diseases infrequently encountered in this country such as actinomycosis; leprosy; leptospirosis; schistosomiasis, and yaws. The more common diseases affecting our fighting forces and also our civilian population, which are described in much detail, are hookworm; fungus infections; impetigo; scabies; trachoma; infectious mononucleosis; poliomyelitis; Q fever; viral hepatitis and venereal diseases.

Much space is devoted to venereal disease, which was the greatest single cause of non-effectiveness in the U. S. Army. The most important change in basic policy was the removal of punishment for acquiring venereal disease. Among the measures ordered were those providing for compulsory prophylaxis, physical inspection, education and early treatment. The discovery of new drugs, including penicillin, and the innovation of new methods of treatment brought about changes in policies and practices. This included increased emphasis on informing and educating the soldiers about venereal diseases and an ex-

tensive contact-tracing program which was designed to cure and rehabilitate.

Illustrations and charts in this volume contribute to the historical record, showing cartoons and posters dealing with the various diseases, with many designed for the promotion of an educational program.

Hepatitis proved a serious problem during World War II. Epidemic serum hepatitis was caused by the use of icterogenic human serum in certain lots of yellow fever vaccine. In 1942 the infectious variety filled the hospitals to overflowing at the rear of the combat area with no means of prevention known and no specific therapy available. The recent increase in cases of hepatitis (Iowa reported that there were 3 times as many cases in 1961 as were reported in 1960) makes this an important chapter for information in regard to this disease; the epidemiology particularly.

The chronological scope of the volumes of this medical history of World War II covers events up to January 1 of 1946. The chapters, however, have been written at various times since that date. The contributors are all well known authorities in their fields, preparing the chapters from the point of view of contemporary understanding of the subject at the time of writing.

The volumes are divided into two series: (1) The administrative or operational series, and (2) The professional, or clinical and technical series.

The appendix of Volume V has many tables giving statistics on the various diseases and the index is very comprehensive and helpful for locating items in the text.

Mrs. Esther Howard
Medical Librarian

NEWS NOTES

Dr. H. E. Rudersdorf, Secretary, announces that the Program Committee has been chosen for the Sioux Valley Medical Meeting. It will be headed by **Dr. H. I. Down**, **Dr. A. H. Kelley**, **Dr. A. Horsley**, **Dr. Pat. Cmeyla**, **Dr. Kenneth Keane**, and **Dr. Leonard Boggs**. It is planned that **Dr. John Tiedeman** will be in charge of the Clinical Program at St. Joseph Mercy Hospital.

RAPID CITY PHYSICIAN SUCCUMBS

Dr. Norris Tillman Owen, veteran Rapid City physician, died at his home October 1, 1961.

Born in Albert Lea, Minnesota, in 1882, Dr. Owen attended schools in Albert Lea and was graduated from Northwestern University School of Medicine at Chicago in 1908. On June 7th of that year the doctor married Signe T. Lee in Hastings, Minnesota.

Before going to the Black Hills, Dr. Owen practiced for three and a half years in Beresford, South Dakota, and for another four years in Sidney, Nebraska.

He served the lumbering camp at Nemo for about three years as a physician for the Homestake Mining Company, and spent another year in the headquarters hospital in Lead.

In 1919 he moved to Rapid City and was associated with Dr. R. J. Jackson. He practiced in Rapid City for some 40 years before retiring in 1955.

In his "spare" time, Dr. Owen served two terms as a member of the city commission, was surgeon for the Chicago and North Western Railway, was the first president of the staff at St. John's McNamara Hospital, served as a member of the state board of health and medical examiners for 11 years, and served as president of the board for one term. In addition, during World War I he served as examiner on the Lawrence County Selective Service Commission.

Dr. Owen has also been credited with the invention of one of the first direct blood transfusion machines, used today by many physicians and clinics.

In 1958 he was awarded a 50-year pin by the South Dakota State Medical Association.

Dr. Owen is survived by Mrs. Owen; a son, **Dr. G. S. Owen** of Rapid City; two daughters, Mrs. E. W. (Audree) Christol of Rapid City, and Mrs. Walter (LaVaughn) Lee of Fort Lauderdale, Florida; five grandchildren; and two sisters.

A memorial has been arranged for the American Medical Educational Fund.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Meditation is an excursion of the spirit that brings the Past and the Future into the Present.

NEWS NOTES

P. E. Lakstigala, M.D., White River, attended the Seminar in Aviation Medicine which was held at the University of Nebraska School of Medicine, September 27, 28, and 29.

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G. W. Mills, M.D., Wall, South Dakota, recently attended a tuberculosis association meeting in Salt Lake City, Utah. Dr. Mills is a member of the legislative committee that deals with the problems of the State Tuberculosis Sanatorium at Sanator, South Dakota.

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Warren Reinohl, M.D., has announced that he will be associated in general practice with **F. E. Manning, M.D.**, in Custer, South Dakota. Dr. Reinohl recently accepted

the position of Medical Director and Superintendent at Sanator, South Dakota.

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The Cactus Heights Country Club was the scene of the 7th District Medical Society's meeting, October 3, 1961. Guest speaker was **Robert M. House, M.D.**, Orthopedic Surgeon, from Grand Island, Nebraska (formerly of Sioux Falls). The topic for discussion was "Sacral Cysts."

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Dr. Yale H. Charbonneau of Huron appeared on the medical aid panel at the State Democratic Mid-West Conference which was held in Sioux Falls, September 29th and 30th. The topic of the panel discussion was, "Medical Aid Through Social Security."

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A group of Aberdeen medical men have announced plans for erecting a professional office in that city. The building will not be a clinic, but will contain offices maintained by individual prac-

titioners. Those associated with the group responsible for the new building, which will be known as the Professional Arts Building, are: **Dr. Robert Bormes**, surgeon; **Dr. James Anderson**, orthodontist; **S. W. Tompkins**, pharmacist; **Dr. Paul Bell**, optometrist, **Dr. Don Carrels**, dentist; **Drs. J. C. Rodine** and **G. H. Steele**, general practitioners; **Dr. H. Angus Bowes**, psychiatrist; **Dr. Noel de Dianous, Jr.**, pediatrician; **Drs. Joseph Pauley, B. F. Wallace, N. B. Bauer** and **E. L. Brown**, dentists; **Dr. Gordon Bell**, optometrist, and **Peter Yunker**, pharmacist. The group is hopeful that the building will be completed by next spring.

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A 33-minute, 16mm. black and white sound film featuring scientific exhibits, lectures and panel discussions from the American Medical Association's 110th Annual Meeting in New York City is now available to medical groups. Interested groups

may obtain a copy of this film (Medifilm Report III) by writing to the American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois, or to the Audio-Visual Department, Schering Corporation, Union, New Jersey. This film has been made available by Schering Corporation in cooperation with the AMA Department of Medical Motion Pictures and Television.

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Following an illness of several weeks duration, **Dr. W. T. Judge** of Milbank, South Dakota, has now returned to his practice.

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The MEND Monthly Lecture Programs for November and December are as follows:

November 22nd—8:00 P.M.
and November 23rd — 8:00 A.M.

"Chemotherapy of Solid Neoplasms," H. M. Lemon, M.D., The College of Medicine, University of Nebraska, Omaha, Nebraska.

December 20th — 8:00 P.M.
and December 21st — 8:00 A.M.

"Management of the Pregnant Diabetic" and "Complications in the Infants of Diabetic Mothers," M. H. Henn, M.D., The College of Medicine, University of Nebraska, Omaha, Nebraska.

Both programs are scheduled for Sacred Heart Hospital in Yankton, South Dakota.

CASUALTY CARE USD SUBJECT

A symposium on Disaster Planning and the Care of Mass Casualties was held September 30th at the University of South Dakota. The program was sponsored by the State University of South Dakota in cooperation with Medical Education for National Defense. **Dr. Robert F. Thompson**, Yankton, was in charge of the meeting.

Colonel Frank A. Neuman, M.C., Chief, Office of Nuclear Warfare Instruction, Army Medical Field Service School, Brooke Army Medical Center; John W. Raker, M.D., Assistant Clinical Professor of Surgery, Harvard Medical School; and Colonel George F. Rumer, M.C., Director, Department of Military Medicine and Surgery, AMFSS, were participants on the program.

* * *

PUBLIC EDUCATION PROVIDED BY MEDICAL GROUPS

Radio and television facilities are increasingly being used by the medical and allied professions to educate the lay public on medical matters.

On October 5th, the State Medical Association cooperating with the Seventh District, kicked off a TV series of "Meet Your Doctor" on the KSOO-TV "Party Line" show. Scheduled for alternate Thursdays, the

show will feature brief interviews with physicians in varying fields of practice.

Radio Station KWAT in Watertown will feature a public service program, "Highroads to Health." The programs are prepared by Lederle and feature ten minutes of drama and five minutes of an interview with a physician.

Radio Station KABR, Aberdeen, carries the program, "Doctor's House Call," sponsored by South Dakota's Blue Cross and Blue Shield plans. This program allows the listener to ask questions of a general nature which are answered by the A.M.A.

Rapid City physicians have also carried on a series of radio and TV shows over the years.

* * *

"NU VOICE CLUB" MEETS

On September 30, 1961, persons from South Dakota who have had laryngectomies met and organized a new club, to be known as the "Nu Voice Club." Mr. P. J. Miesen of Zell, South Dakota was elected president for the coming year.

Any and all persons residing in the state of South Dakota who have had a laryngectomy are invited to attend meetings of the organization. Information can be obtained by writing: State Headquarters, American Cancer Society, P. O. Box 865, Watertown, South Dakota.

PHARMACEUTICAL SECTION



GUILFORD C. GROSS, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



PHARMACEUTICAL *Paper*

"WHERE DO WE GO FROM HERE"

by

Harry J. Loynd**
Detroit, Michigan

It is indeed an honor for me to be invited to address the graduating class of the St. Louis College of Pharmacy today. While we have with us the faculty of this outstanding school and many distinguished guests, parents, and other observers, I wish to address my remarks especially to the new pharmacists who are receiving their diplomas at this time. In doing so, I have selected the title "Where Do We Go From Here?"

You will note that I have said we rather than you because the future path of our profession is one we will travel together, at least part of the way, and the decisions which will guide us will be made largely by you graduates and others like you. Some of these decisions will, of course, follow the well-established precedents which have served the profession of pharmacy so well throughout the years. Others, however, will be ones which may radically change the pattern of our business and professional affairs. In either event, they will be yours to make and yours to live with.

Let us explore briefly, in attempting to develop an answer to the title question, "Where Do We Go From Here?", some of the past and present of our profession. In other words, let us define where we have been, and where we are now. I believe you will agree that it is essential to establish these landmarks before we can make a reasonable decision as to where we wish to go.

First, Where Have We Been?

Let us briefly review pharmacy's accomplishments in the past and, more importantly, in the recent past. It is, I believe, safe to say that pharmacy in this country, for many generations, did not change very much from its early beginnings. The responsibility of the pharmacist was that of compounding a limited number of drugs, largely from botanical sources. And the physicians' medical resources consisted almost exclusively of such materials. The pharmacist's training during this period did not require much distinction from the traditional apprentice system or from knowledge of the art of compounding and dispensing. In the recent past, however, largely due to the research efforts of the pharmaceutical industry and its colleagues in college laboratories, we have witnessed and benefited from a research explosion, and from

*An address at the Commencement Exercises, St. Louis College of Pharmacy, St. Louis, Missouri, June 16, 1961.

**President, Parke, Davis & Company, Detroit, Michigan.

an almost complete change in the role of the pharmacist in the over-all program of medical care.

The pharmacist today is required to know much more of chemistry, of medicinal application of new drugs, of proper use of drugs, and of precautions to prevent their improper application. He must also be a far better businessman than were his ancestors. He must function in an atmosphere of cooperation with the medical profession and as a skilled advisor and consultant to the physician. He must be far more conscious of the business and social world around him and be fully prepared to so conduct his professional and business activities as to gain or retain full public approval of this new role. It is easy to define this relatively new responsibility but not so easy to attain it. It calls for an acute sense of individual responsibility, and the avoidance of the easy way of mass security. In this connection, may I quote briefly from an address given by Dr. E. V. Askey, President of the American Medical Association, to pharmacy students. Here is what he had to say:

"What is this life? I must say, at the risk of clouding this happy occasion, that our national attitudes seem to be placing the desire for personal security above the desire for individual liberty — to be accepting the weakness of security in trade for the strength and freedom that comes from individual responsibility.

"I have nothing against security. It is essential to our happiness and productivity. But it should be the by-product of effort, not the end; it should be our reward for effort, not our goal.

"There is no other way to achieve security. This truth is not altered by the spirit of welfare statism — that great delusion of obtaining security by voting for it."

Dr. Askey's comments point up a situation which is becoming all too common in our country — that of acceptance of what might be called semi-socialism, the conviction that one need not be outstanding to achieve reasonable security. This seems to me to be the philosophy of the least common denominator — the philosophy of "generic name" people rather than "brand name" people. I do hope that none of you will permit yourself to sink

into this swamp of mediocrity.

Where Are We Now?

The present situation of the pharmaceutical profession has been, as you all know, the subject of millions of words, both spoken and written. There are those who claim that pharmacy is a dying profession and that the functions traditionally associated with our operations are properly those of government agencies, welfare organizations and general merchandising operators. It is certainly evident that the public is revising its older concept of the pharmacist and that some of the activities of pharmacy, in its retail function especially, have given the public some justification for the assumption that the pharmacist is more concerned with competitive merchandising than with his role as a professional person. It is evident also that the pharmacist, perhaps through his own neglect, has lost, or at least is losing, his special status as a professional man who can and does conduct a direct retail operation in the course of his profession. It is also possible that we are facing not only apathy to our professional and business policies, but actually public antagonism. This may well be due, at least in part, to the widespread publicity and misinformation the public has received in the past year or so from reports of Senate investigations and of other regulatory activities and proposals.

It points up what is certainly one of our most important problems today — that of regaining public approval and public confidence in our profession. So that you will not jump to the conclusion that I believe we are in a desperate situation, let me assure you that I do not feel so in any way. I personally feel that today's graduating pharmacist has every right to be extremely proud of his profession and of its recent accomplishments. The profession, including the manufacturing industry of which I am a part, can properly claim a major share of the enormous advances in health and medical care which have characterized recent years.

The trouble, if there is any, is that we have apparently been too modest to publicly claim our share of this credit. Our communications need to be better developed and our understanding of marketing, of public relations, and of social responsibility must become our first duty and concern.

Now where do we go from here? In the comments I have already made, I hope you have detected some of the present problems which face you, and indeed, all of us. These are problems for you, for educators, for present retail pharmacists, and for those of us in manufacturing. They are not insoluble problems, but they have certainly been too long neglected. I am alarmed by the suggestions, already adopted in some areas, of a frantic search and approval of temporary expedients which have far greater potential for future harm, than for future good. Blind dependence on restrictive legislation is prominent among these expedients and indeed has been cited by some of our critics as the traditional pattern whereby we pharmacists attempt to solve our public relations problems.

Proper regulations and laws are, of course, essential to the conduct of any profession or business, and no law-abiding citizen will protest their necessity or function. It is only when we attempt to develop selfish laws that we become vulnerable to critical public scrutiny and antagonism. Perhaps it is important to remember that present marketing practices and distribution methods for the products of this industry and profession are by no means permanent and that it is logical to predict that changes can, and will, occur in future years.

We have no divine right to the drug business, and we must continuously prove to the public that the service we render is preferable because of its efficiency, not through legal maneuvers.

What Kind of Business and Professional World Are You Inheriting?

It would be useless to attempt, in these brief comments, a complete description, or even an outline, of the business and professional atmosphere in which we now live. It is probably sufficient to say that all of you should be aware of the present pharmaceutical world. My only further comment is to assure you that we, too, are acutely conscious of your problems, since they are also our problems. The future will be just as good as we make it, and it is certainly a job for all of us — a team job. May I emphasize what I mean by the word "team." I do not refer to a mass of look-alike, act-alike, think-alike people but rather to a group who are in-

dividualistic and who intend to stay that way, but who can work together and get along together. I refer to individuals who intend to work together toward common goals and aspirations, but who have individual determination to stand out above the great mass of their colleagues. May I repeat, I hope that each of you will be a "brand name" and not one of a mass of "generic equivalents."

The profession of pharmacy must set new standards of professional and public performance. But you, as individuals, must set your own goals, and you should resolve now, if you have not already done so, to refuse to accept "least-common-denominator" mediocrity.

Hal Stebbins has expressed it in terms of the kind of people employers are always looking for when he said: "If you hire people who have gone through substantially the same slot machine you are going to get a mechanized product. The important thing is to take people who are healthy rebels, who want to know before they go, who have a respect for facts and figures, but whose interpretation is different, and unusual, and novel."

In my organization we expect our people to be proud of their job, but we never want them to be satisfied with it. If you are satisfied, you will never do any better. The greatest attribute a man can have is the total inability to be completely satisfied with his work. I have heard it said that people get ahead, not because of intelligence, but just because they are lucky. I would be the last to deny the element of luck in any career since I have personally, I believe, had a lot of it. However, I have been made aware of an important fact — the harder I work, the luckier I seem to be! I am sure this kind of luck can be yours too, and I sincerely hope it is.

Moss Hart, in his book called *Act One*, has this to say about the element of luck:

"In the grand design of any successful career the element of luck has been a powerful factor. Perhaps it could more accurately be called a sense of timing. Every successful person I have ever known has had it — actor or businessman, writer or politician. It is that instinct or ability to sense and seize the right moment, without wavering or playing safe, and without it many gifted people flicker brilliantly and briefly and then fade into oblivion in spite of their undoubted talents."

Your Role in Your Community

Earlier I mentioned the necessity for recognition of the pharmacist's role in his community. This is something which, in the day-to-day conduct of a highly competitive business, we sometimes tend to neglect or forget. It is, however, an essential element in individual accomplishment, and certainly of personal satisfaction and pride. Perhaps we do not realize how very fortunate we all are to be living in this country.

While it is true that pharmacy faces a number of problems in the fields of legal regulations, public relations, and even changes in our educative processes, it is still obvious that we enjoy, under the American free enterprise system, a rich heritage of accomplishment, and of public service. These are your inheritance, and they are also your future responsibility to preserve. Not the least of these inheritances is the status we enjoy in our community. This is, at the same time, perhaps our greatest responsibility.

In thinking about our civic and social status and responsibility, perhaps it could be best illustrated in the way in which it was outlined in a recent sermon by Dr. Henry Smith Leiper of the American Bible Society. In his illustration he gave a picture of the world by reducing proportionately all the people of the world into a theoretical town of 1,000 people. Somewhat paraphrased for the special interests of this audience, he tells us it would look something like this:

"In this town, there would be 60 Americans, the remainder of the world would be represented by 940 persons. This is the proportion of the United States to the population of the world . . . 60 to 940.

"The 60 Americans would have half the income of the entire town, with the other 940 dividing the other half.

"About 330 people in the town would be classified as Christians; 670 would not. At least 80 townspeople would be practicing Communists, and 370 others would be under Communist domination. White people would total 303, with 697 non-white.

"The 60 Americans would have an average life expectancy of 70 years, the other 940, less than 40 years on the average. The 60 Americans would have an average of 15 times as many possessions per person as all the rest

of the people. The Americans would produce 16% of the town's total food supply. Although they eat 72% above the maximum food requirements, they would either eat most of what they grew, or store it for their own future use at enormous cost.

"Since most of the 940 non-Americans in the town would be hungry most of the time, it could lead to some ill feeling toward the 60 Americans who would appear to be enormously rich and fed to the point of sheer disbelief by the great majority of the townspeople. The Americans would also have a disproportionate share of electric power, coal, fuel, steel and general equipment.

"The 60 Americans and about 200 others representing Western Europe, and a few favored classes in other areas in South America, South Africa, Australia, and a few wealthy Japanese, would be relatively well off. But the majority of the 1,000 people would be ignorant, poor, hungry, and sick. Of the 630 non-Americans, 300 would have malaria, 85 would have schistosomiasis, 3 would have leprosy. Forty-five will die from malaria, cholera, typhus and other infections. One hundred and fifty-six will die from starvation or malnutrition. None of the 60 Americans will ever get these diseases or probably ever worried about them.

"The 60 Americans would each be spending at least \$87 per year on liquor and tobacco but less than \$20 for the drugs needed for the finest medical care in the world — and would be loudly claiming that medicines cost too much!

"Many of the 60 Americans wouldn't even have brains enough to be thankful for the privilege of being Americans. Quite a few would pass up an education even though hundreds of others in town would give anything to obtain it."

Well, Dr. Leiper's image of the world reduced to the size of a town of 1,000 people gives us a graphic mental picture of the world and our place in it. We should be thankful and aware of our responsibilities to share our knowledge and bounty with those less fortunate, and from this illustration, perhaps we can all gain renewed awareness of our own good fortune.

Factors Affecting You

So far in this discussion, we have been talking about the elements of your careers which

will affect you specifically but which also affect all of us generally. Now I would like to talk with you, partly in terms of my own experience, about some of the factors which apply exclusively to you young people just starting on your life work. Most of you probably already have a definite job commitment; and most of you will likely find your immediate place in the field of retail pharmacy. Certainly this area can be a most satisfactory full-time career, and is one which is, in the final analysis, the principal purpose of your education in pharmacy.

The manufacturing industry depends on retail pharmacy for the proper distribution of its products, and your responsibilities as retail pharmacists, and the way in which you handle the distribution of the medicines we produce, will largely determine our own future plans and policies.

A few of you may have decided on careers in pharmaceutical education. We all know that the present demand for pharmacists is greater than the predictable supply, and this fact points up the urgent need for more and even better pharmaceutical education and for educators. The manufacturing industry has a continuing and rapidly growing need for more people with a well-rounded pharmaceutical training background. In all fields where the pharmacist can be utilized, we find this same shortage.

Compounding the situation is the fact, as recently reported by the Health Information Foundation, that health may now be the nation's third largest operation, surpassed only by farming and the building trades. "The nation's health manpower," this report states, "now stands at 2.5 million, nearly a million more than 10 years ago, and two and a half times the total of 20 years ago."

The report further states that "the results of new medical knowledge . . . have contributed to the aging of our population, and the consequent increase in the load of chronic illness has made greater demands on the health establishment."

The obvious conclusion to be derived from these comments is that jobs for you will be very easy to find. But this fact of itself points up the urgent necessity for you to be a little more than just a job filler, and to realize that superior performance is more difficult,

but also more desirable, when, due to manpower shortages, an average performance is necessarily acceptable to employers who must settle for bodies, instead of brains.

To all of you, and particularly to those of you with unusual talent and energy, I can say that your future may be full of surprises, and of opportunities you do not now expect. Certainly this has been my experience.

After living in a small town, I started my career as a janitor and soda boy in a drug store. Subsequently, among other things, I became a student in business administration, a pharmacist, a drug store manager, a salesman, and finally a business executive. You, too, should prepare for such possible wide variety in your future career.

Now you may well ask: "How can I prepare for this, and has my kind of education given me the proper background?"

During the past 10 years or so, I have given much thought to such questions and have developed, from my experience, observation, and the experience of others, some answers I hope are right, or at least interesting and helpful. First, I would hope that your education, while obviously technical in basic character, has been a liberal one — one from which you have developed a sense of values as well as a reasonable amount of classified and ordered knowledge. I would hope that you find equal satisfaction in work and play, and in enjoyment of the good things of life.

As Theodore O. Yntema, Chairman of the Finance Committee of the Ford Motor Company, has said, "Show me a person who can see and solve problems, who understands and knows how to work with people, who is good at communication, who knows how to organize the resources he commands, who will throw himself into his work whole-heartedly, who has a good memory, and I will show you a person who can turn easily and successfully to any one of a wide range of careers."

My experience has convinced me that the requirements of various jobs have much in common and that it is easy in most instances to pick up the special knowledge required in a particular field.

While it is true that there are some careers that require specialized talents and often prolonged development of those talents, even these are greatly benefited by the basic skills and abilities we have mentioned.

To me, two of the more important are those concerning relationships with people and communication. Almost any career requires the ability to get along with others and to be an expert in communication. I would hope that you continually bear in mind the vital importance of these two basic skills.

In college you were required to concentrate on impersonal facts and ideas, and in my own college days, understanding people and working with them effectively was almost entirely an extra-curricular matter. But now that you are out of college you will have to pay attention to people. My managers often say to me, "The technical problems we can lick — the really tough problems are people."

Perhaps you have been fortunate enough to be given some recognition of the importance of human relations during your college career, but so far as I know, the science of dealing with people needs systematic development and has not yet attained a place of first importance in most of our pharmacy schools.

Fortunately, since you are pharmacists, all of you will be working with people and will have an unusual opportunity to learn about them. May I suggest there is no more important subject for observation and study, and none more rewarding.

I have mentioned the basic skill of communication. In this I refer both to its written and spoken form. There seems to be a gap between recognition and accomplishment in communication. Many students do not learn to write simple prose well, let alone to use language as an art form. May I urge that you never stop your study of better writing and more concise language — these basic skills will serve you well in any future career.

We should also consider the organization of scarce resources. This involves such basic ideas as classification, order and rational planning. In your life it means planning your activities, budgeting your time and meeting deadlines. In professional group activities, it involves defining objectives, assigning responsibilities, developing means for coordination and supervision.

You should know that the basic principles of order and organization are transferable from non-business to business situations and vice versa.

Your motivation is important — the effort

and the eager and persistent application you bring to the job at hand. I have seen talented drones fail and second rate intellects succeed by hard work. All the talent in the world is not worth much unless it is used.

The individual who has and uses the basic skills I have briefly discussed will fit the definition of an executive — a man who can do any job and do it well.

As I have already said, life may be full of surprises for you, as it has been for me. Many of you will have opportunities of which you have not even dreamed. Most of you, 20 years from today, will probably be engaged in work different from your immediate prospects. This fact points up the importance of the transferable skills and abilities.

The diploma you receive here today is a document of value. It represents accomplishment and sacrifice. It will, however, be of little future service or importance, unless you realize that it is only your admission ticket to a lifetime performance in which you will not be part of the audience, but part of the cast.

It should stimulate your determination to set yourself a goal, to work toward it, and to leave your profession better than you found it. It should stimulate you to be a leader, not a follower. The profession of pharmacy is an aggregation of individuals, and it is my hope that it will always be that way.

Dare to be an individual — to be a healthy rebel — to try new ideas. But do so in the framework of your necessary role on the team. We must recognize the needs of our profession, the things we must do to cooperate with others on the health team, the reasons for the present confusion, and be determined that we will not panic. We must not permit ourselves to accept temporary expedients but must plan a long range and logical program for our profession and for our individual roles within it.

This is a great day for you. You have paid for it with money, and hard work, and with something far more precious — time. There is a great future for you — with larger and more varied opportunities than your predecessors in pharmacy ever had. It's up to you to find them — and to create new ones — in a profession which has been good to my generation and can be even better for yours.

Tomorrow morning none of you will re-

member much of what I have said here today, but please do me a favor and remember this —the world steps aside to let the man go by who knows where he is going!

SPIEGEL ORDERED TO CEASE AND DESIST Rx MAIL-ORDER OPERATIONS

Spiegel, Inc., has been ordered to cease and desist employing prescription mail-order depots in Indiana and Pennsylvania. The most recent action came in an order from the Indiana Board of Pharmacy, issued with the approval of the Indiana Attorney General's Office, stating that the use of a Hammond, Indiana, Post Office Box as a prescription depot is a violation of Indiana law which states "it shall be unlawful to accept any prescriptions for filling or compounding at any place or establishment not holding a Permit to operate a Pharmacy."

Earlier the Pennsylvania Board of Pharmacy issued a cease and desist order against a Post Office Box receiving point in Philadelphia, on the basis that it is a violation of Pennsylvania law for anyone other than a pharmacy to use the term "prescription," "drug," or the Rx and mortar and pestle symbols. Pennsylvania also issued a cease

and desist order against the entire Spiegel prescription mail-order operation. Other cease and desist orders which have been issued against Spiegel include independent actions of the North Carolina and the Maine Boards of Pharmacy.

FIRST HUNDRED DAYS OF 'DEFEND THE PROFESSION' DRIVE REPORTED A SUCCESS

The first hundred days of the Defend the Profession drive has been a success. From May 22 when the campaign was launched to defend the antitrust suits against the Arizona, California, Idaho and Utah Pharmaceutical Associations, through August 31, a total of \$63,089.36 was received. During the same period, nearly \$40,000.00 was expended for legal activities.

State-by-state tabulation reveals that California has led the contributions with Illinois, Pennsylvania, Wisconsin, Indiana, Ohio, New York and New Jersey following, in that order. State and county pharmaceutical association contributions have ranged from \$10.00 to \$1,000.00, while individual contributions have ranged from \$1.00 to \$500.00.

PHARMACEUTICAL *Paper*



THE 1960 PRESCRIPTION MARKET

by

David D. Stiles*

North Chicago, Illinois

This is a study of the 1960 Prescription Market. It is based on a sampling of prescriptions from twenty-three states or populous areas in the United States. Twenty-three colleges of pharmacy cooperated in the project, which was the first, continuous, national prescription survey and has operated over the past eleven and a half years.

The number of ingredients studied in the survey was 195,355. In 1955 the ingredients in the survey were 195,387.

Summary of Data on the 1960 Prescription Market

1. 410 products were prescribed with a frequency of five or more per 10,000 in 1960 — one more than 1959.
2. Of these, 66 were prescribed as generic name products, 344 as brand name products.
3. The generic name products accounted for 10.3% of all prescriptions filled in 1960 (685 million) and 5.8% of the prescription dollar volume (\$2.2 billion). A study of all ingredients of the total prescription market showed a higher percentage of generic name products — 13.3%.
4. The 344 brand name products accounted for 68.8% of prescriptions and 74% of the dollar volume.
5. Together, the 410 products prescribed five or more times per 10,000 accounted for 79.2% of all prescriptions and 79.8% of total dollar volume.
6. Since the beginning of this, the first, continuous national prescription survey in 1950, the number of products prescribed with this frequency has varied only from a low of 393 to a high of 413.
7. Like all prescription surveys, not otherwise specified, this is based on new prescriptions. Projections, in number of prescriptions and dollar volume are based on a conservative refill ratio of 40%. Refills, of course, vary considerably by groups of products and individual products within groups.
8. Twelve of the 66 generic name products' prescriptions in this study accounted for 50% of the prescriptions written under the generic name.
9. Sixty-four products (57 specialties, 7 generic) dropped out of the five or more per 10,000 group. They had an estimated number of 15.9 million prescriptions and \$49.3 million dollar volume and represent prod-

* Director of Market Development, Abbott Laboratories.

ucts of twenty-eight manufacturers.

10. Sixty-five products (60 specialties, 5 official) entered this group. They had a projected, yearly volume of 46.3 million prescriptions and \$170.4 million dollar volume and represent products of thirty-four manufacturers.
11. This compares with the 1959 market when 66 dropped out and 67 entered.
12. This "turn-over of products," on the basis of the past two years, is 16%, or "average longevity" would be six years.
13. Sixty-three manufacturers were represented in the 344 brand name products which qualified for this study.
14. Of the 344 brand name specialties, 164 or 48% were five years or younger, and they accounted for 33.2% of all prescriptions and 41.6% of the total dollar volume.
15. Eighty-six, or 25%, were between five and ten years old, and they accounted for 14.0% of all prescriptions and 15.0% of the total prescription dollar volume.
16. 250 of the 344, or 73%, were ten years or younger. They totalled 47.2% of all prescriptions and 56.6% of the total dollar volume.
17. Ninety-four products, or 27%, were older than ten years and accounted for 21.7% of all prescriptions and 17.4% of the total dollar volume.
18. 17.4% of the 344 brand name products introduced in the current year accounted for 6.4% of prescriptions and 7.4% of the total dollar volume. (Such products had to maintain a frequency of 10 or more per 10,000 prescriptions for three months for inclusion in the study.) Their prescription and dollar volume is computed on a twelve month basis.
19. 84% of the brand name products were prescription legend products and represented 92.2% of all prescriptions and 94.4% of total dollar volume for the group of 344 brand name products.
20. The average prescription charge in 1960 was \$3.25. This was four cents above, or about 1% above the 1959 average charge of \$3.21.
21. Looking at the entire group of 410 products, including generics, (we have used the common definition of generic to include all drugs that are not brand names) the products ten years or younger

were 259 or 63.2% and accounted for 48.2% of the total prescriptions and 57.7% of the total dollar volume.

22. The mode, or most frequently occurring charge, for prescriptions in 1960 was \$1.50. The next five most frequently occurring charges, in order of frequency, were \$2.00, \$1.25, \$2.25, \$1.75 and \$3.00.

Analysis of 168,512 Prescriptions Filled in the United States in 1960

Prescriptions with one or more specialties	151,976	90.2%
Prescriptions with no specialties	16,536	9.8%
Total prescriptions	168,512	100.0%

In the following, ingredients of specialties are counted collectively. Ingredients of prescriptions compounded which require measuring and mixing before being dispensed are counted separately. In this survey, a product is considered to be a "specialty" if the trade mark name is prescribed, even though it is official under the generic name.

Total count of specialties	154,272
Total count of U. S. P.	21,667
Total count of N. F.	1,613
Other	2,998
Total number of ingredients	180,550

Prescriptions compounded and dispensed as manufactured . . . 159,857 or 94.9% of Rx's
Prescriptions compounded which require measuring and mixing before being dispensed 8,655

Prescriptions analyzed according to the number of ingredients:

1 ingredient	862	4 ingredients	852
2 ingredients	5,064	5 ingredients	347
3 ingredients	1,340	6 ingredients	128
7 ingredients	27		
8 ingredients	15		
9 ingredients	20		
or more			

Total number of ingredients in prescriptions compounded which require measuring and mixing before being dispensed — 21,411

Prescriptions prescribed by:

DDS	789	MD	165,077	DO	2,457
DVM	58	DC	47	Other	84

Frequency of various dosage forms:

Solids	75.8%		
Tablets	76,157	Suppositories	2,105
Capsules	30,124	Troches	776
Ointment	7,775	Powders	729
Time Medication		E. C. Tablets	857
Caps. 4,997		Gum	42
Time Medication		Candy	12
Tabs. 4,234			
Liquids	24.2%		
Syrups	10,297		
Suspensions	9,334		
Drops	7,548		
Elixirs	4,620		
Time Medication			
Liq. 1,169			
Emulsions	290		
Other Liquids	7,446		

Fifteen leading companies' prescriptions totaled 100,733 or 65.3% of 154,272 specialties.

Number of times competitive products appeared for which no brand was specified

Number of different products appearing

Number of products appearing five or more

times per 10,000 prescriptions410
 Total selling charge of prescriptions ---\$526,004.00
 Average charge per prescription\$3.25

6.00 and under 91.6%
 10.00 and under 98.5%
 Over \$10.00 1.5%

*Breakdown of prescription charges:

Prescription Charges By Dollar Range	Cumulative % of Rx's
\$ 1.00 and under	5.8%
2.00 and under	34.7%
3.00 and under	59.1%
4.00 and under	74.2%
5.00 and under	84.8%

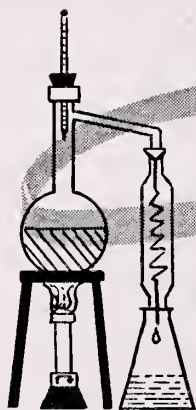
Prescription Charges By Dollar Range	% of Rx's
\$ 0.00 to \$ 1.00	5.8%
1.01 to 2.00	29.0%
2.01 to 3.00	24.4%
3.01 to 4.00	15.0%
4.01 to 5.00	10.6%
5.01 to 6.00	6.8%
6.01 to 10.00	7.0%
10.01 and over	1.5%

**Leading Classifications From
1960 National Survey***

Classification	% of Total New Rx's	Average Charge
Analgesics	8.7%	\$2.33
Antihistamines	4.8%	2.20
Anti-infectives	27.4%	3.99
Antibiotics (Oral)	16.1%	4.68
Broad & Medium	11.9%	5.08
Combination	0.1%	3.04
Penicillins	3.0%	4.08
Other Antibiotics	1.2%	2.22
Sulfonamides	5.3%	2.62
Sulfas & Antibiotics	0.6%	4.63
Other	5.3%	3.18
Antispasmodics and Anticholinergics	3.6%	2.91
Cardiovascular, Anti- hypertensive & Rauwolfias	4.6%	3.55
Anti-obesity	2.6%	3.87
Cough & Cold Preps.	7.4%	2.15
Hematinics	1.6%	3.39
Diuretics (Plain)	2.6%	3.45
Hormones	1.5%	4.15
Corticoid & Corticoid Comb.	5.9%	3.86
Vitamins & Nutrients	3.0%	3.61
Sedatives & Hypnotics	5.8%	1.88
Anti-arthritis	1.1%	3.68
Ataractics, Psycho-stimulants & Tranquilizers	6.1%	4.25

These 15 classifications account for 86.7% of the total number of new prescriptions.

* Many of the products in the Abbott Prescription Survey in 1960 have been reclassified to coincide with therapeutic classifications universally used by commercial market research surveys. Therefore, data for several classes of products in this report cannot be compared with national reports from previous years.



Advances In Drug Research

SYNTHESIS OF FLUORINATED STEROID HORMONES

Addition of fluorine, the element which hardens tooth enamel, to the molecule of the steroid hormone, such as cortisone and hydrocortisone, enhances the efficacy of the anti-inflammatory drug — and can be accomplished in ways not previously considered — a recent report establishes.

The report, made by Dr. Albert Bowers, Director of Research of Syntex, S.A., Mexico City, before a recent meeting of the American Chemical Society outlines the techniques employed by him and his colleagues in introducing fluorine as an integral part of the steroid molecule.

(Steroid hormones are those of the outer layer of the adrenal gland and of the sex glands.) The former are useful in treatment of such disorders as rheumatoid arthritis. Their modification by the introduction of fluorine has, in the words of Dr. Bowers, "had a very beneficial and potentiating effect . . ."

Synthetic steroid chemists under Dr. Bowers developed four methods for the introduction of fluorine into the steroid molecule at a critical junction. Two of them, he told the ACS can be considered as advances in fluorine chemistry. One new fluoro steroid hormone now being used in medicine is the recently introduced anti-inflammatory topical ointment, Synalar, for use in dermatoses. It is calculated to be 40 times as potent as hydrocortisone.

In the course of his paper, which reviewed mainly recent Syntex research, Dr. Bowers predicted that in the future combinations of methyl (CH₃) groups with fluorine in the

steroid molecule would lead to even greater effectiveness of the hormones.

The methods developed by Dr. Bowers and his group will, he suggested, be generally applicable to the synthesis of fluorinated organic compounds and will not be limited to steroid hormones.

NEW DRUG FOUND EFFECTIVE AGAINST TRICHINAE

'Thibenzole' has been found effective against the organism which causes trichinosis — Dr. W. C. Campbell of the Merck Sharp & Dohme Research Laboratories Division of Merck & Co., Inc., has reported.

The new drug was 100 per cent effective in protecting mice and swine from infections of trichinae when given at a level of 0.1 per cent in the diet.

A single dose of the drug, if given promptly, completely cured mice of infections which were fatal for untreated mice. In comparison, diethylcarbamazine at three times the dose level had little or no effect.

At larger doses, in mice, 'Thibenzole' destroyed the dormant trichinae larvae encysted in the muscle. 'Thibenzole' is the first drug known to kill this form of the parasite. It is not yet known if the drug will have a similar action in swine and man.

If 'Thibenzole' proves effective in prevention or cure of trichinosis, it will be the first drug found useful in this disease. Other drugs effective against trichinae have been either not effective enough or too toxic.

Trichinosis can be transmitted to man through the eating of raw or undercooked pork from infected swine. Contrary to

popular belief, pork is not inspected for trichinae in the U. S., although federal laws do require processors to freeze or cook all ready-to-eat-pork products, such as frankfurters, summer sausage, etc., in order to kill any trichinae which may be present. It would cost an estimated \$40 million to examine all the pork consumed each year in the U. S.

The incidence of trichinosis in swine is highest in Eastern and Western seaboard states where garbage is collected and sold for use in swine production. Since 1944, when cooking of garbage fed to hogs became required in some states, the incidence of the disease in garbage-fed pigs has fallen from about 10 per cent to about 2 per cent.

It is believed that one out of every six Americans is infected with trichinae — 17 per cent of the population. The disease is fatal in a very few cases, but the vast majority of infections are so mild as to escape notice. Unfortunately, severe cases of trichinosis are often not diagnosed until it is too late for treatment.

Dr. Campbell's report was one of six devoted to the new drug at the annual meeting of the American Society of Parasitologists.

The discovery of 'Thiabendazole' was announced by Merck Sharp & Dohme scientists last April. Tests so far indicate it is highly potent against a broad spectrum of round-worm gastrointestinal parasites which affect sheep, goats, cattle, horses, poultry, dogs, and man. 'Thiabendazole' is the Merck trademark for thiabendazole. A new type of anthelmintic, chemically it is 2-(4-thiazolyl)-benzimidazole.

LOCAL TREATMENT FOR PSORIASIS

Success in the treatment of more than 200 patients suffering from the incurable and disfiguring skin disease, psoriasis, has been reported to the country's general practitioners by a Cincinnati skin specialist.

Dr. Ashton Welsh said that application of a preparation called Alphosyl cleared up the skin condition completely in almost half of 214 cases in which it was used and brought clearing of three quarters of the affected areas in another 42 per cent.

All of the patients benefited to some degree from the medication, Dr. Welsh said. He used ultra violet radiation therapy along with Alphosyl in a number of instances.

In his article, published in a recent issue of GP, Dr. Welsh reviewed the many treatments which, through the years, have been used against the disease. Dr. Welsh, who is connected with Cincinnati General Hospital and University of Cincinnati College of Medicine, said that most of these have been discarded.

Psoriasis, sometimes mistaken for dandruff, shows itself as patches of shiny scales with a reddened area underneath. The skin of some victims is almost completely covered by scales, while others may have it only on one small area such as the elbows or nose.

Psoriasis is neither contagious nor dangerous but is annoying, unsightly, and usually productive of considerable anxiety on the part of the patient.

Dr. Welsh explained that Alphosyl depends on coal tar and a chemical called allantoin for its action on the skin. Other treatments recommended for psoriatic patients by the physician include diets low in animal fats, vitamin supplements, and tranquilizing drugs.

STRONTIUM DENTIFRICE RELIEVES PAIN OF SENSITIVE TEETH

A new therapeutic dentifrice, the active constituent of which is the relatively rare element strontium, controls the painful condition called dental hypersensitivity, a researcher associated with the University of Pennsylvania has recently reported.

The author, Dr. Abram Cohen of the dental school faculty, published his findings in a recent issue of Oral Surgery, Oral Medicine, Oral Pathology.

The new dentifrice, containing strontium chloride, eliminated or significantly reduced pain caused by heat or cold, acids, sweets, or even touch in the teeth of patients undergoing treatment, he wrote.

"The exposure of cementum [the outer surface of the tooth root] following surgical procedures such as gingivectomies and osteotomies frequently aggravates an already serious condition," he explained, "and often results in thermal, ionic, or tactile sensitivity that may range from annoying to exquisite pain for the patient."

The dentifrice will be known as Sensodyne, and was developed by research scientists in the laboratories of Block Drug Company, Inc., of Jersey City, N. J.

FACTS OF INTEREST TO DRUGGISTS

**Today, an estimated 1,100,000
doctors' prescriptions are filled
every single day in this country
by qualified registered pharma-
cists.**



DRUGGISTS MUTUAL

INSURANCE COMPANY

HOME OFFICE

ALGONA, IOWA

**A word of caution at the holidays
.... prevent Fire! It could ruin
your profitable year-end busi-
ness. Check for faulty wiring,
overloaded circuits, holiday
Inflammables!**

Dr. Cohen tested the new dentifrice on a hundred patients and obtained follow-up records on 81. Complete relief was experienced by 54 of his patients, in 7 the relief was described as good, in 10 fair, a total of 87.6 per cent.

"For the first time," Dr. Cohen commented in his report, "it appears possible that a non-toxic, nonirritating, and nonallergenic chemical agent can be used for the daily treatment of a most common dental problem."

He also noted: "[This] seems to us to be an important advance in dental therapeutics."

This advance had its origin in Warsaw where a woman dental researcher, Dr. J. Pawlowska, less than a decade ago began laboratory tests based on fundamental physical and chemical findings on strontium.

She fed strontium to dogs and discovered that it "combined strongly with hard tissue" and that "dental tissues . . . permanently retain strontium chloride."

Thereafter, she made a paste of strontium chloride and water and used it on the teeth of patients. This relieved pain in more than three-quarters of them, "with long-lasting lowering of the hypersensitivity."

Dr. Pawlowska's report prompted Dr. Cohen first to test a liquid solution of strontium chloride which he applied to cementum exposed by surgery. This was effective in relieving hypersensitivity and led him next to undertake an investigation of Sensodyne which Block scientists, also stimulated by Dr. Pawlowska's report, had developed.

The new paste, Dr. Cohen notes, contains none of the traditional calcium or magnesium substances commonly found in toothpastes, nor phosphates or carbonates which might cause the strontium to precipitate out instead of penetrating the tooth and adsorbing to the tooth tissues to set up a barrier against painful stimuli.

The protective effect of this absorption was cumulative, Dr. Cohn found. He wrote: ". . . The typical patient who experienced some relief within a few days found that diminution of sensitivity continued to build with conscientious use of the dentifrice. Consequently, the general progress of many patients in our records shows a reclassification of effectiveness from 'fair' to 'good', or from 'good' to 'complete' on repeated visits."

PHARMACEUTICAL

EDITORIAL



A GOOD TIME TO TAKE INVENTORY

There comes a time in every individual's life when he must sit down and take a real inventory as to where he is, where he has been and where he is going. This same pause and contemplation is also needed by a profession and it would appear that NOW is the time that every Pharmacist and the profession in concert, should fully examine these three questions. From discussions we have held, there appears to be great apprehension on the part of many Pharmacists, not for today, but for what is going to happen tomorrow. This apprehension can only be alleviated by a solid understanding of our present situation and the charting of an intelligent course of action for the future.

It is impossible to discuss this problem and all of its ramifications here, but if some thought can be stimulated in our readers and this thought translated into programs within the local pharmaceutical associations, then maybe some progress can be made. There appears to be a real need today for meetings and programs on a local level which deal exclusively with the future of Pharmacy as a profession. Participation programs among Pharmacists, where exchange of viewpoints

and ideas are stimulated, are essential. The chances for such exchanges are all too few and to waste local programs on minutia and on topics which have no direct relationship to the profession appears to be an extreme waste at this critical time. We need less programs and more programming. Issues and trends should be presented from all sides, and we should not shun viewpoints because they do not agree with ours but should listen to them, examine them and refute them or accept them, whichever appears to be the intelligent course of action.

It appears to us that Pharmacy is being "nickled and dimed" to death. Its practitioners frequently involve themselves in heated discussions of a very minor nature and expend so much of their energies in these efforts that the broad and serious problems are completely ignored. There is a real need for intelligent, individual thought with a resultant concert of action which will insure our future. It is long past the time when we must broaden our horizons.

(The Voice Of The Pharmacist)

PRESIDENT'S PAGE

Rx



November is the month of Thanksgiving. Our forefathers expressed their thankfulness to God for the harvest that made their hold on the new world more secure. We have continued this custom until the present time. Yet too many have lost sight of the true meaning; we tend to look on it as an occasion for feasting and merrymaking rather than as a time to thank God for His blessings.

Now when our profession seems to be so beset with problems, investigations, adverse publicity, and internal dissensions, let us look on the positive side of the picture at our many blessings and be thankful. The volume of business done by the nation's pharmacies is increasing, and despite adverse publicity public confidence remains high; almost all stores are on a firm financial footing; most national, state and local associations are militantly active on behalf of the profession; opportunities of community and public service projects are open for the participation of pharmacists.

The picture certainly is not dark, yet we should not be complacent; let us be thankful.

Philip E. Case

PHARMACEUTICAL NEWS



NATIONAL POISON PREVENTION WEEK PASSED BY CONGRESS

Congress has passed H. J. Resolution 358 authorizing the President to issue annually a proclamation designating the third week of March as "National Poison Prevention Week." The measure has the approval of the Department of Health, Education and Welfare.

Congressman Paul C. Jones of Missouri, who introduced the resolution, has acknowledged on the floor of the House of Representatives that Homer George, pharmacist of Cape Girardeau, Missouri, "was responsible for the inception of the idea of a National Poison Prevention Week, and that Missouri was the first of several states to recognize the great good that can come from the designation of a week in which attention can be centered on the hazard that exists and the means which can be taken in saving lives."

Congressman Jones also officially "applauded the efforts of the American Pharmaceutical Association and the American College of Apothecaries" in their

"wholehearted cooperation," and inserted the article by Homer George, which was featured in the March 1960 issue of the Journal of the American Pharmaceutical Association, entitled "Poison Prevention Week," into the Congressional Record (Sept. 20, 1961, pp. A7477-78).

AIHP INVITES RECOMMENDATIONS TO MARK HISTORICAL SITES OF PHARMACY

Recommendations for historical sites of pharmacy to be marked are invited before December 31, 1961, by the American Institute of the History of Pharmacy. Inaugurated this year, the program will provide permanent reminders to the public and to pharmacists of some of the most notable achievements in American pharmacy.

The Institute fosters erection of historical markers to draw attention to the national import of basically three general types of sites: (1) discoveries of pharmaceutical significance; (2) the founding of institutions or organizations of pharmacy; (3) outstanding pharmaceutical personalities — their

birthplace, residence, or place of practice.

An example of each type of site that might qualify, according to Dr. Eunice Bonow, chairman of the Institute's Committee on Historical Markers, would be the place where streptomycin was discovered, where the first American association of pharmacy was founded, and where William Procter, Jr. was born or had his pharmacy.

An official form upon which to recommend the marking of a historical site of national significance to pharmacy may be obtained upon request to the Institute's Secretary, Ernest W. Stieb, 356 Pharmacy Building, Madison 6, Wisconsin.

UTAH TRIAL SET FOR NOVEMBER 21-22

Defense counsel won a major victory in the Utah civil antitrust suit when the government conceded on September 14 that "the dispensing of prescriptions was a professional service performed by members of a learned profession."

The action is recorded in a trial memorandum filed in

Salt Lake City Federal District Court following pre-trial conferences held on September 13-14 by defense counsel Arthur B. Hanson and Charles Welch with government attorney Don H. Banks. The Utah trial will be heard by Federal District Judge Sherman Christianson on November 21-22.

The trial memorandum, filed with the court by both parties, clearly outlined four primary points which are in controversy. Those points are namely the jurisdictional question as to whether or not the dispensing of prescriptions is in interstate commerce; whether or not the Utah Pharmaceutical Association entered illegal agreements prohibited by Section I of the Sherman Act; whether or not professional services as represented in the dispensing of prescription drugs are exempt from the purview of the Sherman Act; and finally, assuming that all the other items would be resolved against the defendants, whether or not the use of prescription fee schedules, in use since the early 19th century, is reasonable in the circumstances and not designed to fix prices but rather to establish appropriate standards for the profession.

BOARDS AND COLLEGES MEET IN FARGO

Members of District V Boards and Colleges of Pharmacy held their annual meeting in Fargo, North Dakota on October 8 and 9 to discuss problems of mutual concern. An added feature of this year's program was the

dedication of Sudro Hall, new pharmacy building on the North Dakota State University campus. The dedicatory address was given by Dr. George F. Archambault, President-Elect of the American Pharmaceutical Association. An open house prior to the dedication ceremonies permitted members of District V to tour the building and inspect its facilities.

Attending the meeting from South Dakota were: Board members **Roger Eastman**, Platte, **Al Bittner**, Aberdeen and **Ted Hustead**, Wall; Board Secretary, **Bliss Wilson**, Pierre; Inspector for the Board, **Harry Lee**, Alcester; and faculty members **Dean F. J. LeBlanc** and **Dr. Guilford C. Gross** of South Dakota State College.

District meetings of Boards and Colleges are held annually under the auspices of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy. Next year's meeting will be held in Lincoln, Nebraska.

APhA OFFICERS FOR 1962-63 ELECTED

George F. Archambault, immediate past chairman of the APhA Council, pharmacy liaison officer to the Office of the Surgeon General of the U. S. Public Health Service, and chief of the pharmacy branch, Division of Hospitals, U. S. Public Health Service, Washington, D. C., is President-Elect of the American Pharmaceutical Association in a record vote of nearly ten thousand ballots.

Practicing pharmacists J. Curtis Nottingham of Wil-

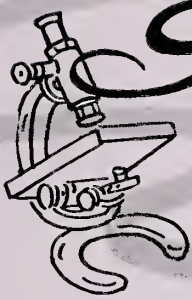
liamsburg, Virginia, and Lee E. Eiler of Dayton, Ohio, have been elected to serve as first and second vice presidents, respectively, during 1962-63.

Councilors elected to a three-year term commencing at the conclusion of the 1962 annual meeting are Grover C. Bowles, Jr., of Memphis, Tennessee; Robert A. Hardt of Chicago, Illinois; and Frederick D. Lascoff of New York, New York.

The officers elected will be installed at the conclusion of the APhA annual meeting in Las Vegas, Nevada, the week of March 25, 1962. The present officers of the APhA who will continue to serve through the annual meeting next year are J. Warren Lansdowne of Indianapolis, Indiana, President; Rudolph H. Blythe of Philadelphia, Pennsylvania, First Vice President; and Noel E. Foss of Baltimore, Maryland, Second Vice President.

Officers of the American Pharmaceutical Association are elected in a mail ballot by all active members in good standing.

The Honorary President of the APhA is elected by the House of Delegates annually, and the Secretary and Treasurer are elected triennially by the House of Delegates. Heber W. Youngken, Sr., of Boston, Massachusetts, currently serves as Honorary President, while William S. Apple of Washington, D. C., was elected Secretary and Hugo S. Schaefer of Yonkers, New York, was elected Treasurer for a three-year term at the 1959 annual meeting.



Scientific

P A P E R

THE VASCULAR DISSEMINATION OF CANCER

S. Roberts, M.D.; L. Long, M.D.;
O. Jonasson, M.D.; E. McGrew, M.D.;
and W. H. Cole, M.D., F.A.C.S.

From the Departments of Surgery and Pathology, University of Illinois College of Medicine, Chicago, Illinois. Supported by U.S.P.H. grant #CS9594C2. Presented at the 80th Annual Meeting of the South Dakota Medical Association.

At some stage in the natural history of many malignant tumors, cancer cells are carried from the primary site to distant parts of the body in the circulating blood.¹ The vascular dissemination of cancer may be considered as occurring in a sequence of four phases; entrance, transportation, lodgment and fate, as seen diagrammatically in Figure 1.

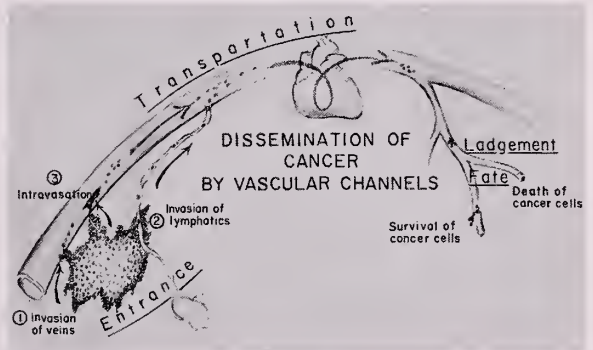


Figure 1

Diagrammatic representation for the sequence of events in the vascular dissemination of cancer (from Cole, McDonald, Roberts and Southwick; *Dissemination of Cancer and Preventive Measures*, Appleton-Century-Crofts, Inc., 1961).

This report deals with the transportation phase of vascular dissemination of cancer and is concerned specifically with the isolation of cancer cells from the circulating blood during operation and other clinical procedures, including preliminary follow-up data.

Figure 2

Collection of blood samples from inferior vena cava.



A. — Drawing of catheter and inferior vena cava showing the tip of the catheter at the level of T12 in order to collect renal blood flow.

METHODS

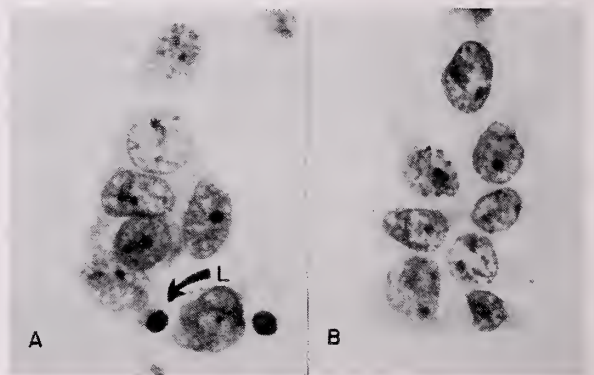
Blood samples (10 cc.) are collected from the peripheral blood or from venous blood draining the tumor area. Local venous blood samples are obtained either through a catheter placed in a major venous trunk draining the tumor, such as the inferior vena cava (Figure 2), or by direct needle aspiration of a vein adjacent to the tumor.

Cancer cells are isolated from the numerous formed elements of whole blood by one of two methods, including an albumen floatation technique² or a streptolysin hemolysis³ technique as reported in detail elsewhere. The final cellular sediment is streaked on slides immersed in alcohol, and stained according to the Papanicolaou technique.⁴ Whenever possible, a direct smear of the resected tumor is made in order to compare these cells with those obtained from the blood stream, as seen in Figure 3. The slides (8 to 12 for each blood sample) are screened by a technician and all cells marked as atypical or malignant are re-



B. — X-ray showing catheter (from Roberts, et al; *Annals of Surgery*, 1961).

viewed by a cytopathologist (EAM) for final interpretation. Suspicious or atypical cells are reported as negative.

**Figure 3**

Carcinoma of the ovary, Papanicolaou stain, X 1100. A. — Clump of cancer cells isolated from the peripheral blood during operation, L = Lymphocyte. B. — Clump of cancer cells from direct smear of resected tumor (from Roberts, et al; *A.M.A. Archives of Surgery*, 1958).

The usual findings in the peripheral blood are single or double cancer cells (Figure 4). Clumps of cancer cells are rarely seen in the

peripheral blood but clumps of considerable size are often demonstrated in the venous blood draining the tumor (Figure 5). The similarity of the cancer cells isolated from the blood (Figure 3A) to those obtained from blood smear of the resected tumor (Figure 3B) leaves little doubt as to the malignant nature of the circulating cells.

RESULTS

Since July of 1956, we have had the opportunity to study blood samples from 700 patients for the presence or absence of cancer cells (Figure 6).² Of the 624 patients with malignant diseases, 36% had positive blood samples. The patients were classified as having "curable" disease or incurable disease at the time the blood sample was obtained. The term "curable" is a theoretical possibility based upon the absence of demonstrable tumor beyond the confines of primary surgical resection. Twenty-seven percent of the "curable" patients and 40% of the incurable patients had positive blood samples, including peripheral and/or local venous blood. Considering the source of the blood sample, 21% of the patients with curable disease had positive peripheral samples compared to a 36% positive blood finding from the local venous blood. A higher percentage from the peripheral and local venous blood was obtained in the patients with incurable disease, as seen in Figure 5. Of considerable interest is the fact that only 10% of the 169 patients who had curable disease had positive peripheral blood samples **prior to any form of manipulation or operation**.

Of the total number of patients studied for the presence of cancer cells in the blood stream, 108 patients have had at least one blood sample drawn in the preoperative period, during operation, and in the postoperative period. Fifty-two patients (48%) had one or more positive blood samples. With blood samples either positive or negative before, during, and/or after operation, there are eight possible situations, including those who have negative blood samples at all times. Of considerable interest is the group of 18 patients (17%) whose blood samples were positive **only during operation**, with negative blood samples in the pre- and postoperative periods.⁵

In addition to patients studied before, during and after operation, patients were studied



Figure 4
Pair of cancer cells isolated from the peripheral blood of a patient with carcinoma of the ovary. Note the size in comparison to the adjacent lymphocytes. Papanicolaou stain, X 1100.

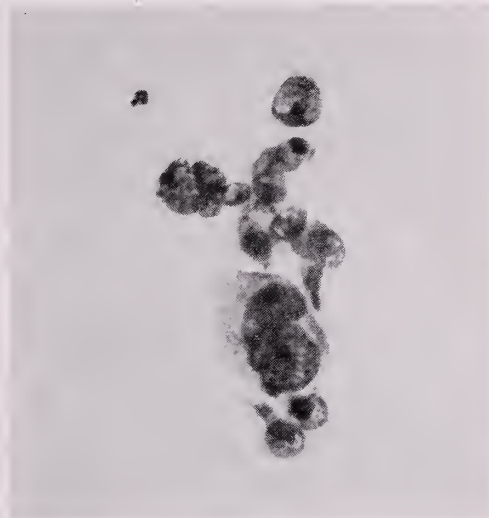


Figure 5
Clump of cancer cells isolated from the axillary vein during radical mastectomy for carcinoma of the breast. Papanicolaou stain, X 1100 (from Roberts, et al; A.M.A. Archives of Surgery, 1958).

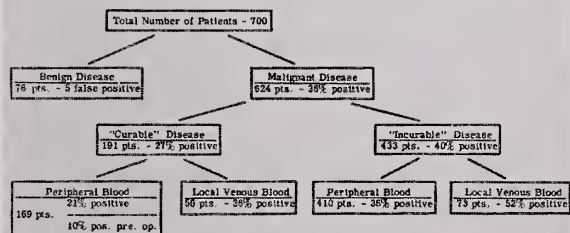


Figure 6
Total experience of patient studied for the presence of circulating cancer cells at the University of Illinois Research & Educational Hospitals (after Cole, McDonald, Roberts, Southwick; Dissemination of Cancer and Preventive Measures, Appleton-Century-Crofts, Inc., 1961).

during various types of manipulation. Showers of cancer cells were demonstrated during (1) physical examination (e.g., pelvic² and rectal examination of solid tumors), (2) diagnostic procedures (e.g., uterine, curettage,⁷ bone biopsy² and transurethral resection⁸), and (3) soap and water skin preparation over a solid tumor (Figure 7).

Seventy-three patients studied before, during and after operation have been followed for 2 to 5 years postoperatively.⁶ Only 4 of the patients (20%) with showers of circulating cancer cells demonstrated during operation were alive with no evidence of disease 2 to 5 years postoperatively. These 4 patients included one with carcinoma of the cervix, 2 with carcinoma of the breast, and a child with a myxofibrosarcoma of the thigh. In contrast to the survival rate of those patients with a shower of circulating cancer cells during an operation (20%), 38% (20 of 53) of patients with negative blood samples during operation were alive with no evidence of disease during the same period of observation (Table 1).

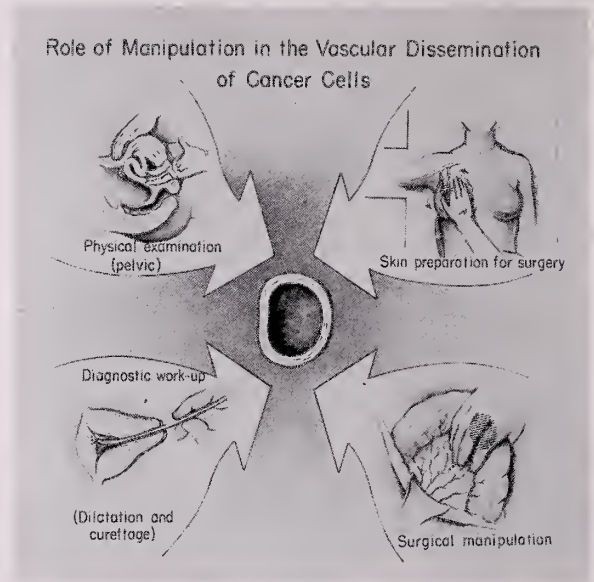


Figure 7

Four phases of patient care which have been associated with showers of cancer cells in the circulating blood (after Roberts, et al; *Annals of Surgery*, 1961).

TABLE I. TWO TO FIVE YEAR SURVIVAL AFTER OPERATION

<u>BLOOD SAMPLES</u>	<u>No. PTS.</u>	<u>ALIVE & NED*</u>
Negative at all times	53	38%
Showers of cancer cells during operation	20	20%

*No evidence of disease.

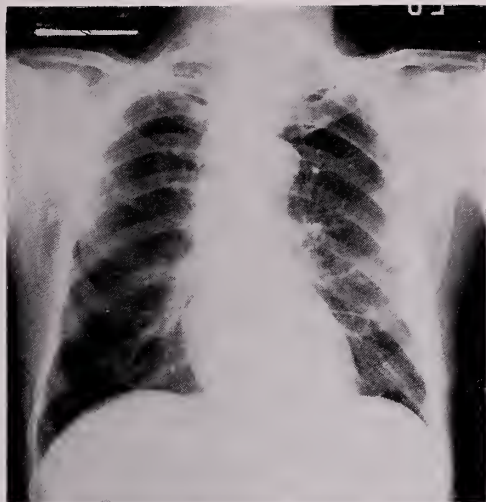
(From Roberts and Associates in *Ann. Surg.*, 1961)

DISCUSSION

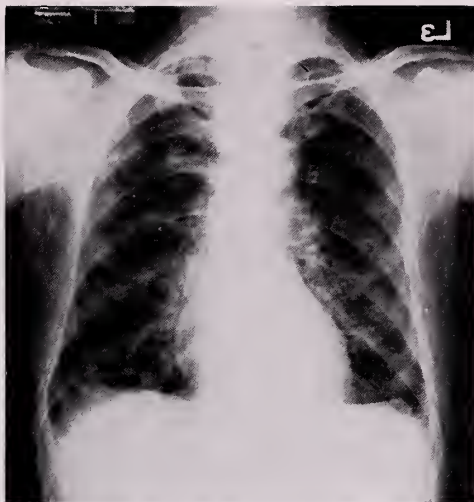
The demonstration of cancer cells in the circulating blood adds further knowledge to our concept of the vascular dissemination of cancer. The showers of cancer cells demonstrated in the circulating blood during operation and other types of manipulation provides evidence that manipulation of a malignant tumor may result in its dissemination by vascular channels. Of great importance to the surgeon is the group of patients who have positive blood samples **only during operation**, having negative blood samples pre- and postoperatively. These showers of cancer cells may be very transient and may be undetectable within one minute after a positive blood sample. Therefore, frequent blood

samples must be drawn in order to detect an isolated shower of circulating cancer cells.

The data (Table I) indicating that the survival of patients with a shower of cancer cells demonstrated **during operation** was one-half that of patients with negative blood samples (20 versus 38% respectively) has clinical significance. Although the vast majority of embolic cancer cells are undoubtedly destroyed within vascular channels, some are viable and possess a growth potential sufficient to penetrate the capillary wall and proliferate in the extra-vascular tissue to establish metastatic growth. The appearance of pulmonary metastases in the early postoperative period after resection of a malignancy is not uncommon and is well summarized in Oberling's



A. — Preoperative chest X-ray of patient with carcinoma of the kidney. No evidence of metastases.



B. — Chest X-ray taken 6 weeks postoperatively showing "cannon ball" metastases, all of similar size (after Roberts, et al; *Annals of Surgery*, 1961).

Figure 8

statement that "every surgeon knows that the removal of a malignant neoplasm may be followed after a brief interval by a sudden and fatal eruption of metastases in the internal organs."⁹ The uniform size of the pulmonary metastases, such as seen in Figure 8, might be interpreted that the cancer cells arrived in the lungs all at the same time — as a shower of blood-borne cancer cells during operative manipulation (Figure 9). A shower

shower of circulating cancer cells may be in excess of the number that the "host resistance" is able to normally destroy, and secondly, there may be a decreased ability of the patient during "operative stress" to destroy such a shower of blood-borne cancer cells.²

Certain measures will undoubtedly minimize the vascular spread of cancer. First, tumors should be examined very gently — no more than is absolutely essential in order to make a diagnosis. Moreover, patients should be instructed not to massage or palpate nodules they may discover but should report immediately to their physician when such are found. During skin preparation prior to operation, a vigorous soap and water scrubbing over a solid tumor should be avoided; adequate skin preparation can be accomplished with gentle application of antiseptics such as Novak's solution. During operation, great care should be taken to avoid manipulation of the tumor prior to ligation of the vascular trunks supplying the tumor.¹⁰ In cases of malignancies involving extremities, amputation should be done proximal to a tourniquet whenever possible.

For the past five years, we have been investigating the effectiveness of chemotherapeutic agents given at the time of operation in an effort to destroy cancer cells disseminated during the operative procedure.¹¹ Although still in the experimental category,

CANCER CELLS IN THE VENA CAVA DURING NEPHRECTOMY

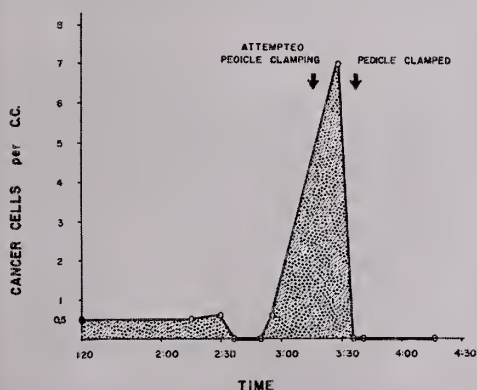


Figure 9

Cancer cells in the inferior vena cava during nephrectomy for carcinoma in the kidney. Note the sudden disappearance of cancer cells following successful application of a pedicle clamp (after Roberts, et al, *A.M.A. Archives of Surgery*, 1958).

of cancer cells occurring during operation may be of increased significance because of two factors: First, an increased number or

the preliminary results appear to show marked benefit in cases of breast carcinoma and little or no benefit in cases of colon carcinoma.²

SUMMARY

Cancer cells were isolated from the blood stream (peripheral and/or local venous blood) of 27% of "curable" patients and 40% of incurable patients. Of 108 patients studied before, during and after operation, 17% had positive blood samples **only during operation**—none before or afterwards.

The presence of a shower of cancer cells during an operative procedure is associated with a survival rate only one-half that of patients with negative blood samples during operation.

Although the vast majority of cancer cells are destroyed in the blood stream, every effort should be made to prevent vascular dissemination of cancer cells particularly during operation.

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ANNOUNCEMENT OF NATIONAL HEMOGLOBIN SURVEY

To Be Conducted by College of American
Pathologists
December 1961

In order to stimulate interest in the accuracy of hemoglobin measurements, the College of American Pathologists' Standards Committee announces a National Hemoglobin Survey available to all physicians and hospitals.

Hemoglobin measurement is one of the fundamental screening measurements in the practice of medicine. The decision for the need for blood transfusions rests upon this test. It has been shown that inaccurately calibrated hemoglobin photometers may lead to unnecessary transfusions. Accurate diagnosis and treatment of hematologic disorders also depend upon reliable hemoglobin measurements.

Hemoglobin measurements must be consistent from year to year so that patients have the benefit of continued observations. Therefore, photoelectric photometers used for hemoglobin measurements should be frequently calibrated with a stable hemoglobin standard.

Participants will receive a set of survey samples as well as a critique on the accuracy and precision of hemoglobin measurements plus suggestions for increasing the reproducibility under practical conditions. Questions concerning calibration of photometers for hemoglobin measurement may also be directed to the committee.

Those who wish to participate in this hemoglobin survey may do so by sending \$10.00 to the Standards Committee, College of American Pathologists, Prudential Plaza, Chicago 1, Illinois.



Scientific

P A P E R

MASKS OF DEPRESSION

Roy C. Knowles, M.D.¹

Depression is a multi-visaged phenomenon which comes within the ken of all physicians. However, many of the faces of depression are not recognized as such. The purpose of this article is to describe some of the masks of depression. No attempt is herein being made to define etiology or treatment.

This article is a result of a review of the records in a private psychiatric practice. Records were reviewed in alphabetical order with no concern for dates, duration or other selection factors. A goal was set of 100 cases of depression. In order to find 100 cases of depression, a total of 470 records were reviewed.

There is no way to transpose the figures in this review to the basic practice of the average physician. There is already a selection process going on when patients are referred by another physician to a psychiatrist. Nevertheless, it is of interest to note that by this process of selection, 21% of cases seen were given a diagnosis of depression. Depression as used in this article is a symptom rather than a complete diagnosis. The range of depression in this list runs from a simple transient situational depression to a severe psychotic depression. In the survey we sought only the symptom of depression, whether it be overt or covert form.

Eighty-seven per cent of the one hundred

¹ Psychiatrist-Director, Minnehaha Guidance Center, Sioux Falls, South Dakota.

cases were referred by physicians. The age range was from a 74-year-old male to an eighteen-year-old female. Twenty-eight were male and seventy-two were female.

Of particular interest is the fact that forty of the one hundred cases given a diagnosis of a depressive reaction of some kind did not in their complaint indicate depression by any verbal production. They did not use words such as depression, blue, melancholy, or sad. It is this point which is of special importance to the physician. In view of the fact that suicide is a potential in all depression, although more frequently found in certain forms of depression than others, it behooves every physician to be constantly on guard for depression masked by other complaints.

Some of the complaints as given by the patient will indicate some of the means by which patients will at one and the same time declare their depression and attempt to mask it:

Weakness and indecisiveness. Difficulty with husband.

Dizziness. Black outs. Loss of memory.

Diminishing appetite. No interest in anything. Inability to sleep.

Intense fear of cancer following removal of uterus. Afraid of canned foods. Cries, shakes and acts scared.

Tension and pressure in head which developed after a cold.

Taking too much medication. Abdominal distress. Difficulty with writing.

Nervous. Sense of fright. Feels dull headed. Periods when she stares and body stiffens. No motivation to go back to work.

Agitation. Restlessness. A cloud that won't lift from the mind. Cramping in lower abdomen. Can't relax.

Nervousness. Body weakness and insomnia. Strange feeling in head.

Complains of bowel distress.

Distressed with inability to sleep. Feels agitated and restless. Unable to concentrate.

Nervousness and discomfort in legs and impossibility to sit or lie still. Complains of sucking and twisting motions of her tongue and her mouth.

Sleeplessness over three and a half years.

Pain in the neck. Dull sensation of arms and legs for five years. Increasing agitation and irritability.

Severe headaches, identified as "nervous

headaches."

Upper abdominal pain for one month. Lower abdominal pain. Painful urination and nervousness.

Can't get a deep breath. Weakness, dizziness. "Falling," which is of recent origin. The onset of the foregoing is after the birth of a child.

Fear of loss of job and money. Lack of sleep. Nervous stomach. Headaches. Fear of fainting. Weakness.

Complaint of nausea. Soreness and weakness in legs. "Heart symptoms." Fear of death by heart attack.

Difficulty after a mild heart attack. Fear about whether digitalis will make him sick. Fear of inability to produce at work. Afraid of the future and possibility that money will run out.

Nervous. Feels sick. Dizzy.

Feels world is closing in on her. Uncomfortable. Distressed with herself because of hostile feelings toward parent.

Agitation. Inability to be satisfied anywhere.

Nervousness. Tension and worries. Need to be busy.

Nervousness. Weakness. Weight loss. Inability to eat.

Back trouble. Burning in her legs. Cries easily. Nervous. Uncertain of future.

Fearful of catching cold. Withdrawn. Nervous. Complains of back trouble. (Attempted suicide a few years ago.)

Gagging and general nervousness.

Nervousness. Inability to concentrate. Fear and agitation for two months.

Severe agitation and uncontrolled emotional outbursts.

An illustrative case is that of a woman who insisted there was something wrong with her "female organs." She did not know what was wrong with them but there was something wrong. She insisted she needed a physical examination. She insisted she needed gynecologic consultation. It was the insistence that suggested that this woman was primarily depressed but that she had successfully hidden all of the depression under her preoccupation with pelvic disease. The speculation of the psychiatrist at the time was that when this woman was told by the gynecologist that there was no pelvic pathology, the woman would have but two choices

— to become severely and probably psychotically depressed or to become terribly angry at everyone. For approximately one day after the message of the gynecologist had been delivered, the woman wept bitterly. Suddenly she and her husband began to hurl bitter complaints at the hospital and the doctor, and then demanded her release. So long as she was able to maintain either her search for a physical illness or her anger she could remain free of the very painful psychological state which is depression.

In many of the cases above, the declaration of depression was very simply identified by the psychiatrist's asking the patient if he was sad or blue or depressed. In other instances the depression was identified by a more intense perusal of the patient's personal life, which resulted in outbursts of crying or definite evidence of sadness, depression or unreasonable guilt.

DISCUSSION: A diagnosis of depression was made in one hundred cases gathered from an unselected file of 470 patients' records. Twenty-one per cent were thus diagnosed as depressed. These cases include adults only. Eighty-seven per cent of these cases were referred by physicians. Of the one hundred, forty did not indicate depression in their complaints by the use of words implying depression. The thirty-one examples used in this report were taken from physician referrals.

Most patients who are depressed will specifically identify their sadness or depression. Many, however, will not identify their depression.

It can be recognized by the foregoing that depression masks itself under a wide range of complaints and symptom description. It is important to be suspicious of depression because of the potential for suicide in any depressed patient. A careful searching for depression is also important because proper treatment is dependent upon proper diagnosis.

JOURNAL STAFF ATTENDS CONFERENCE OCTOBER 30-31, 1961

In attendance at the biennial journal conference sponsored by the State Medical Advertising Bureau in Chicago, October 30-31, were John Foster, Business Manager; Judith Schlosser, Assistant Editor; and Phyllis Sundstrom, Assistant Executive Secretary of the South Dakota State Medical Association.

The first session was devoted to determining the functions of a state medical journal, what constitutes a good editorial, and the difference between good and poor medical writing.

Monday afternoon was spent in workshops designed to assist the personnel from the various state journals in improving their publications. Emphasis was placed on the responsibility of the editor to see that the contents are clear cut, concise, and carry a message of importance. At the same time, the assistant editor or production manager must be certain that the "message" is not lost in a muddled or jumbled format.

South Dakota physicians will be interested to know that the entertainer at the banquet Monday evening was Jay Marshall. Mr. Marshall did a splendid job, and was enjoyed as much in Chicago as he was at the Annual Meeting in Sioux Falls last May.

The conference was concluded Tuesday with a workshop pertaining to business management of journals, and with an evaluation of the state medical journals by O. M. Forkert of the publishing firm of Forkert, Blome & Associates, Inc.

As a result of the hard work and excellent management rendered the South Dakota Journal of Medicine and Pharmacy by Robert E. Van Demark, Editor, and John C. Foster, Business Manager, the Journal again received a fine evaluation.

As a whole, the conference was interesting, informative, and offered many suggestions for over-all improvements in state medical journals.

GUIDANCE CENTER SHOWS GROWTH



New Guidance Center building at 2000 South Summit Avenue in Sioux Falls houses center research and psychiatric care facilities. (Photograph by Joel)

The Minnehaha Guidance Center, started in 1952 as an effort to meet the need for psychiatric services in the Sioux Falls area, has blossomed from a few room operation in an unused barracks building staffed by four people to its present well-staffed, modern building near the Augustana campus.

Headed by Psychiatrist-Director Roy C. Knowles, M.D., the professional staff consists of Walter T. McDonald, Ph.D., psychologist; Joseph A. Szukay, Ph.D., rehabilitation and physical therapy; Harry S. Aasved, psychiatric social worker; Doris Williams, psychiatric social worker; Leanne Hundley, R.N., psychiatric nurse; and Geneva Beller, social worker. The administrative staff is headed by William D. Chamberlain and is rounded out by the usual complement of clerical and secretarial workers.

The Center is operated by a Board of Directors which is a truly representative citizens body. Representatives from county commissions, the schools, the city, medical profession, social agencies and others are always on the board. In order to inject new life into the Board, a continuous planned turnover of members is carried out. Experience is not neglected as retired Board members are named to positions of advisory capacity.

Doctor Knowles, who has headed the Center since its start, is a graduate of the University of Alabama and the Albany Medical School. After six years of general practice, he served his psychiatric residency at Topeka and for a year was in-patient director of Southard School in Topeka before coming to Sioux Falls.



Interior view of center reception area shows novel use of modern materials in the building. (Photo by Joel)



Staff offices in new Guidance Center are functional and attractive. Handsome "interviewee" looks suspiciously like Psychiatrist-Director Knowles, rear view. (Photograph by Joel)

THE MONTH IN WASHINGTON

WASHINGTON, D. C.—The Public Health Service said that radioactive fallout levels resulting in the United States up until early November from the new series of Soviet nuclear explosions "do not warrant undue public concern" nor initiation of any special public health action.

Federal officials said radioactive fallout on the United States will increase next February, March, April and May when the late winter and spring rains wash to earth the remainder of the fallout from the Soviet nuclear tests but it isn't expected to reach a danger level. President Kennedy said any U. S. nuclear tests in the atmosphere would be designed to hold radioactive fallout to an absolute minimum.

The federal agency said that the prevailing levels were not high enough for the public to be concerned about the safety of milk and other foodstuffs.

But PHS added that "continuous, intensive surveillance" by federal, state and local governments was justified.

In a special statement issued after a two-day conference of government and private radiation experts, the PHS pointed out that "very little is known about the effects on animals or humans of very low but prolonged exposures" from either natural background radiation or fallout from nuclear tests.

"The consensus of scientific opinion is that the most prudent course is to assume there is no level of radiation exposure below which one can be absolutely certain that harmful effects may not occur to at least a few individuals when sufficiently large numbers of people are involved," the PHS said. "This is known as the 'non-threshold' concept."

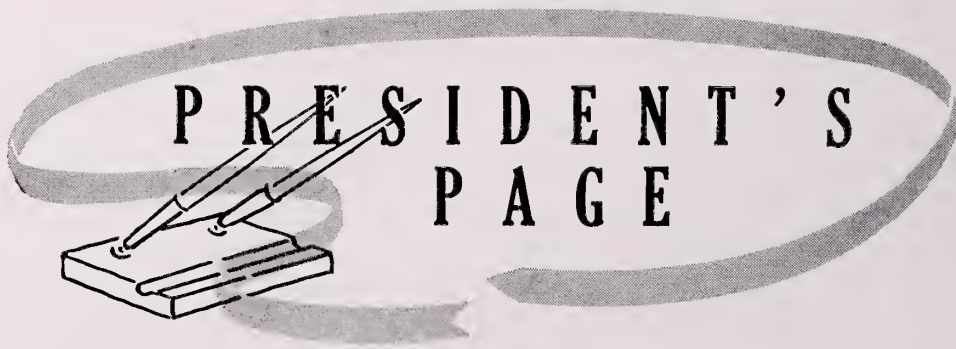
This concept is the basis for U. S. policies and programs for assessment of radiation hazards and for control measures designed to limit exposures of the population, the PHS said and added:

"When this non-threshold concept is applied to present radiation exposure levels being experienced in the U. S. from all sources, including fallout, the following assessment can be made:

"The extra radiation caused by the Soviet tests will add to the risk of genetic effects in succeeding generations, and possibly to the risk of health damage to some people in the United States. It is not possible to determine how extensive these ill effects will be—nor how many people will be affected. At present radiation levels, and even at somewhat higher levels, the additional risk is slight and very few people will be affected. Nevertheless, if fallout increased substantially, or remained high for a long time, it would become far more important as a potential health hazard in this country and throughout the world.

"It is the obligation of our Federal and State governments to undertake all possible measures to assess accurately the public health significance of the present fallout situation, and to prepare for actions to safeguard the public health if these become necessary."

P R E S I D E N T ' S P A G E



Your South Dakota Blue Shield program has now been in effect for about five years. Our earned premium for this year, 1961, is expected to be well over one-half million dollars.

There are over 16,000 contracts now in effect, which means that over 40,000 people in South Dakota have Blue Shield coverage.

South Dakota Blue Shield has two plans: the original Basic Plan of 1956, and the Extended Medical-Surgical Plan which started January 1, 1961. We also service National Accounts agreements of the National Blue Shield Association. One of these is the Federal Employees coverage.

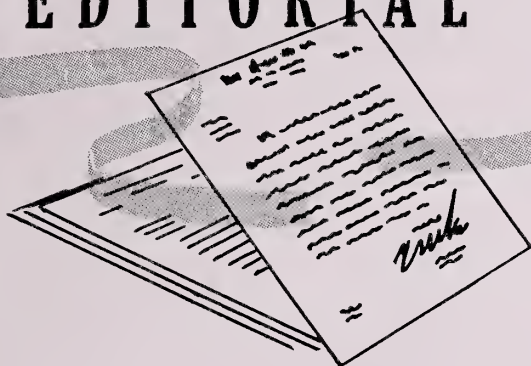
Our Medicare payments are running about \$4,000.00 a month. There will probably be a slight increase in this in the months ahead.

Although we have almost doubled our income in the past twelve months, there is still a lot to be desired in the coverage of Blue Shield in South Dakota, and we urge you to talk up Blue Shield whenever you can.

C. J. McDonald, M.D.

President

EDITORIAL PAGE



SYMPTOMS OF DISCONTENT

"Doctors participate in Blue Shield programs for their own profit and they frequently raise their fees to patients enrolled in Blue Shield. There's no doubt that the doctor is professionally competent, but he's often pretty impersonal and seldom acts like the "dedicated" person he's supposed to be."

These were some of the general conclusions of a recent pilot study of consumer attitudes toward Blue Cross and Blue Shield. The surveyors found many people's feelings about Blue Shield—based on their experiences when seeking Plan benefits through their physicians—are less favorable today than six years ago.

Although these findings are admittedly inconclusive and not necessarily applicable to any but the areas of the pilot study, they will be ignored at our peril. Medicine needs the best possible public image in the days ahead if it is to preserve the free environment in which doctors can best serve their patients.

What's to be done? Both immediately and ultimately, it's up to you and me. Dr. Francis Peabody once said, "The secret of the care of the patient is in caring for the patient." In today's world, this means a lively, thoughtful concern for each patient's personal welfare, his time, his problems, and—not least—his pocketbook.

Blue Shield was created in the doctor's

image. And the doctor's image, in the long run, will control the destiny of Blue Shield and of the private practice of medicine.

MEDICAL CARE DURING DISASTER

A mass casualty situation exists whenever the number of simultaneous casualties overwhelms the capability of the medical personnel and an institution. Five seriously injured auto accident victims arriving at the ambulance entrance in five different vehicles overwhelms the ability of many of our hospitals because of their construction and employment (or deployment of personnel.) It is still true that many ambulance entrances are built in such a way that there are delays in admitting patients to the hospital for care.

Such delays are caused by:

- (1) Locked doors.
- (2) Doors which are opened after a hospital attendant is called from elsewhere by ringing a bell.
- (3) Locked or unlocked doors leading to elevators used by other hospital personnel (and thus not always rapidly available) which carry the patient to the floor of the emergency department.
- (4) Drive in and back out ambulance entrances (and other types) which restrict entrance to one vehicle at a time (thus keeping the other 4 vehicles out-

side on the street until the first vehicle deposits its load and departs).

- (5) Many institutions do not have an emergency department readily available to the entrance with personnel present or available within 1-2 minutes.
- (6) Many hospitals do not have house physicians to cover the emergency department, nor nurses sufficiently trained in first aid procedures to stop bleeding and resuscitate patients (and thus save lives).

How is your hospital constructed and operated? Does it have the following which will save lives in a mass casualty situation:

- (1) Can patients be rapidly admitted, deposited on a hospital bed, table, or stretcher, identified, and the ambulance personnel discharged immediately?
- (2) Does one ambulance and its personnel, because of entrance and parking facilities, prevent entrance and parking of other emergency vehicles simultaneously?
- (3) Does a patient receive immediate attention from a qualified physician or trained nurse upon being deposited in the emergency department?
- (4) Can more than one patient be cared for in the emergency department; or are personnel trained in methods of expanding the emergency department immediately when needed to care for more patients? (This requires more than plans — personnel must be trained in how to actuate this planned expansion.)

Nurses and laboratory technicians can be trained in life saving first aid medical procedures. Any hospital without house physicians should seriously investigate how such personnel have been trained elsewhere (such as the U. S. Army Medical Field Service School in San Antonio, Texas). A core of such trained (and re-trained) personnel operating the emergency department, or available when needed, will save many lives.

Hospital architecture must be designed with mass casualties in mind. Most hospital architects — or rather, "architects employed to design hospitals" — rarely have the training, experience, and perspective needed to guide them in designing emergency hospital

facilities which are architecturally capable of handling mass casualties. Again, let's remember that mass casualties are situations in which the number of simultaneously injured (or ill) overwhelms the installation and its personnel — this could be 1, 5, 10, 15, or more patients depending upon the institution, its architecture and personnel, its training, and the supplies available and their utilization.

No plan applicable to all local situations can be offered. Each hospital must investigate its own facilities and physical plant, supplies, and development of personnel.

R. F. Thompson, M. D.

Medical Education for National Defense

State University of South
Dakota Medical School

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

GRAHAM, SOTTO and PALOUCZEK —
CANCER of the CERVIX

full and authoritative coverage of the diagnosis and management of cervical cancer — from Roswell Park Memorial Institute.

HOGAN and ZIMMERMAN —
OPHTHALMIC PATHOLOGY

an atlas and textbook on diagnosis of diseases of the eye and on the pathology of involved tissue.

OWEN — HOSPITAL ADMINISTRATION
covers every aspect in the construction, organization and administration of today's hospitals.

N. C. CONFERENCE DRAWS DAKOTANS

Nine South Dakotans registered for the North Central Medical Conference in Minneapolis, Sunday, November 5th. Those registering were Drs. R. A. Buchanan, Huron; D. A. Gregory, Milbank; A. A. Lampert, Rapid City and Howard Wold, Madison; plus J. C. Foster and Phyllis Sundstrom of the Association staff; Mrs. Howard Wold, Auxiliary; Duane Buholz, Brookings Clinic; and Karl Goldsmith, attorney.

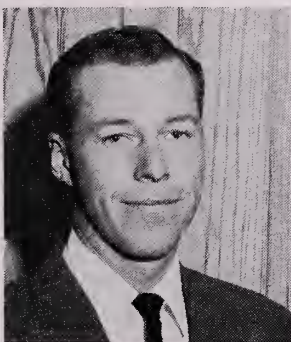
The program discussions covered the Kerr-Mills Legislation, Canadian Hospital Plan, PR Image of Medicine, Incorporation of Physician Groups, and a report on the American Political Action Committee.



Merry



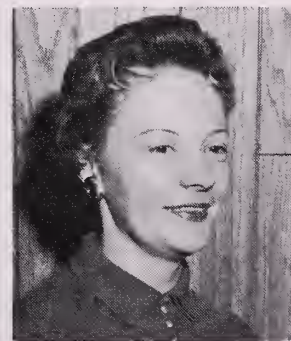
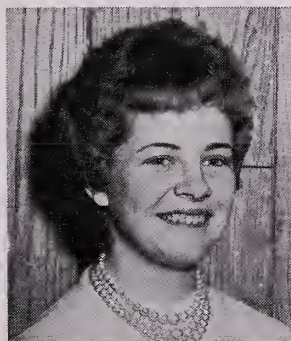
Christmas



"Decking the page with boughs of holly" are the following staff members. South Dakota State Medical Association: Center — John C. Foster, Executive Secretary. Left to right (clockwise)—Phyllis Sundstrom, Assistant Executive Secretary; Judee Schlosser, Assistant Editor; Patty Butler, Secretary; and Kathy Krull, O.A.A. Claims Clerk. South Dakota Medical Service, Inc.: Pat Briggs, Claims Clerk; Eve Sylvester, Claims Clerk; Kathy Elrod, Claims Clerk; and Richard Erickson, Assistant Executive Director.



In this festive holiday season, with its aroma of holiday baking, and the chatter and laughter of children as each awaits his turn to whisper his wishes in Santa's ear, we are taking this opportunity to wish you and yours a joyous Christmas, and a New Year filled with peace and prosperity.



*You and your patients
should read
the story beginning on page 69—
December, Reader's Digest.
It deals tersely and thoughtfully
with major issues
raised in the investigation of
the prescription drug
industry.*

*This message is brought to you on behalf
of the producers of prescription drugs.
Pharmaceutical Manufacturers Association
1411 K. Street, N.W., Washington, D.C.*

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs:

When I was young and
full of spice,
I used to think that girls
were nice.

Now I'm old and cold as
ice,

But I still think that girls
are nice.

NEWS NOTES

Delegates representing South Dakota at the American Association of Medical Assistants in Reno, Nevada, October 13-15 were: Hugh Loy, Rapid City; Mrs. Dorothy Preheim, Freeman; and Mrs. Mary Loos, Huron. The group heard Leonard Larson, M.D., President of A.M.A., speak at the Saturday night banquet. Among the new trustees named by the AA-MA's House of Delegates was **Sgt. Hugh Loy**.

* * *

Members of the Black Hills District Medical Society were privileged to have as speaker at their recent meeting **Dr. Maurice Levv**, nationally known director of the congenital heart disease

research and training center at the Hektoen Institute for Medical Research at Chicago.

* * *

A new face has been added to the staff of the Brookings Clinic — that of **Bruce C. Lushbough, M.D.** Although Dr. Lushbough will be in general practice at the clinic, he has had special training and experience in diseases of the skin.

* * *

The 26th Annual Session of the International Medical Assembly of Southwest Texas will be held at the Granada Hotel in San Antonio, January 29-31, 1962. For details, contact Mr. S. E. Cockrell, Jr., 202 West French Place, San Antonio 12, Texas.

* * *

The Medical Library Association has opened a headquarters office at 919 N. Michigan Avenue, Chicago 11, Illinois. Mrs. Helen Brown Schmidt has been named Executive Secretary.

Doctors J. A. Cline and **R. S. Westaby** of Rapid City recently journeyed to the "Windy City" of Chicago to attend a postgraduate clinical seminar sponsored by the American College of Chest Physicians.

* * *

Surgeons, graduate nurses, and all related medical personnel are invited to the first of four 1962 Sectional Meetings of the American College of Surgeons in Los Angeles, January 29 through February 1st. Headquarters hotel for the doctors' sessions will be the Statler-Hilton, and for nurses The Biltmore.

* * *

C. J. Clark, M.D., of Watertown, president-elect of the South Dakota Heart Association, represented that group at the annual meeting and scientific sessions of the American Heart Association in Bal Harbour, Florida, in October. Also attending from South Dakota were **John Argabrite, M.D.**, Watertown, and **W. F. Stanage, M.D.**, Yankton.

NEWS NOTES

T. J. Wrage, Jr., M.D., of Watertown, South Dakota, was Jaycee of the Month for October. Dr. Wrage is in charge of the Jaycee project dealing with "Communist Encirclement 1961." An active leader in the Jaycee group, Dr. Wrage received their Key Man award, and served as vice president of the state organization last year.

* * *

Dr. and Mrs. Stanley J. Walters, formerly of Watertown, have moved to Glendale, California. Dr. Walters was previously associated with the Medical Arts Center in Watertown.

* * *

William B. Janss, M.D., a native Iowan, will open practice in Rapid City in association with **Dr. Gordon Paulson**. Their offices will be located in the new Professional Villa.

Dr. and Mrs. N. J. Hastetter and family have moved from Edgemont, South Dakota, to Circle, Montana. In addition to his private practice, Dr. Hastetter will assume the responsibilities of county health officer in Circle.

* * *

Dr. Eberhard Heinrichs, Department of Pediatrics, joined the Bartron Clinic in July, 1961. Dr. Heinrichs had his internship and three-year residency in Pediatrics at the St. Louis City Hospital.

* * *

POSITION OPEN:

Nurse Anesthetist, CRNA preferred, 70 bed hospital in Northwestern Montana. Excellent opportunity, liberal benefits. Salary open. Contact Administrator; Kennedy Deaconess Hospital; Havre, Montana.

* * *

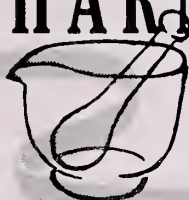
The twenty-fifth annual meeting of The New Orleans

Graduate Medical Assembly will be held at the Roosevelt Hotel, New Orleans, Louisiana, March 12-15, 1962. For information regarding the assembly and the clinical tour immediately following, contact: Mannie D. Paine, Jr., M.D., Fourteen Thirty Tulane Avenue, Room 105, New Orleans 12, Louisiana.

* * *

A postgraduate course on "Clinical Rheumatology" will be presented January 22-24, 1962 in Mann Hall in the Medical Sciences Building, Rochester, Minnesota. Credit will be given by the American Academy of General Practice. Registration fee is \$5 and a charge of \$55 will be made for the course. Accommodations are limited, so interested physicians should contact M. G. Brataas, Secretary, Postgraduate Courses, Mayo Clinic-Mayo Foundation, Rochester, Minnesota.

PHARMACEUTICAL SECTION




GUILFORD C. GROSS, PH.D.

EDITOR

Division of Pharmacy
South Dakota State College
Brookings, South Dakota

PHARMACEUTICAL *Paper*



NABP ANNUAL CENSUS OF PHARMACY*

The number of pharmacists practicing in this country remains approximately the same showing little gain over last year. This total, 116,709, is gathered from questionnaires mailed to all Boards of Pharmacy, the official licensing agency in each state. Boards report that there were 172,280 licenses in good standing on their rosters as of January 1, 1961. There are numerous duplicate licenses in this number, since many pharmacists keep one or possibly more licenses current and in good standing through renewals. The 116,709 is considered to be an approximate census of the profession, since it is the total of those practicing inside each state on a given date, January 1, 1961. The total number of new licenses issued by Boards during 1960, some of which may be cross licenses, was 6,465; a slight decline from last year's 6,535. Retail stores number 54,345; hospitals, 2,781.

This and other census and licensure data relating to pharmacy and acquired from the offices of the State Boards of Pharmacy are tabulated and recorded in a series of charts which constitutes the yearly compilation "**Licensure Statistics and Census of Pharmacy**" which the National Association of Boards of Pharmacy publishes annually. This data will be published in the 1961 N.A.B.P. Proceedings and in pamphlet form. Distribution has been made to Boards of Pharmacy,

colleges of pharmacy, the pharmaceutical press, State Associations and others who request the material each year.

The census data reveals the total number of pharmacists engaged in practice in each state on January 1, 1961, the number engaged in each of the several fields of pharmaceutical practice, their ages and qualifications; also the total number of pharmacies on January 1, 1961, and the number that were serviced by one, two, three, four, five or more pharmacists; also the total number of pharmacists who acquired licenses to practice by examination, by reciprocity and by reinstatement during the calendar year of 1960. These data furnish the basis of the statements which follow:

Pharmacists In Practice

The pharmacist population for forty-eight states and the District of Columbia remained approximately the same from January 1, 1960 to January 1, 1961. This year's total of those practicing in each state on January 1, 1961 is 116,709. Those in retail pharmacies number 105,734 an increase over last year's 103,533. Retail pharmacists comprise 90% of the practitioners of pharmacy in this country. Of the 110,832 pharmacists practicing in forty-seven reporting states, 6.8% or 6,928 are women. On the basis of thirty-two reporting states and the District of Columbia, 4.2% are engaged in hospital pharmacies. Of 101,832 pharmacists reported by forty-three states, 2.8% are in manufacturing and wholesale plants; 2.6%

* Reprinted from National Association of Boards of Pharmacy Bulletin, July, August, September, 1961.

represent the manufacturer or distributor; and 1.0% teach or are engaged in government positions as pharmacists. The remaining 1.3% are engaged in other pharmaceutical activities in a variety of situations.

Half Are Employee Pharmacists

Boards again report that approximately half of the pharmacists in retail stores in the country are employees. In forty states and the District of Columbia where 89,898 pharmacists work in retail pharmacies, 50.5% of this number are employees having no financial interest in the establishment where they practice. The remainder of this number are owners, partners or have some other interest in the pharmacy.

Educational Qualifications

Thirty-two states and the District of Columbia (excluding New York), reported that 62,896 pharmacists had the following educational qualifications: 89.6% of the profession are graduates of Colleges of Pharmacy; of the total 55.1% were graduated from the four year course; 15.7% completed the three year curriculum; and 16.6% graduated with a two year degree. Some 12% of the profession either did not attend a college and/or graduate.

New Pharmacists Licensed

Boards of Pharmacy issued 6,465 Certificates to practice during the 1960 calendar year. This includes licenses granted by examination, reciprocity and through reinstatement. Of these, 1,631 had acquired a license previously by examination or reciprocity. There were 431 reinstatements of licenses by Boards so that 4,403 original licenses were granted by states for the first time. No doubt the 1,631 licenses acquired by persons who held an additional license in another state either by examination or reciprocity is a conservative number since it is difficult for some Boards to determine those who were previously licensed by examination. During the year 1960, 1,341 licenses were issued by reciprocity. Boards examined 4,951 applicants, 757 failed on their first sitting and 4,693 were licensed by examination.

How Old Are U. S. Pharmacists

An interesting category included in the charts gives the approximate ages of United States pharmacists in thirty-eight states and the District of Columbia. Boards report that of 85,955 pharmacists practicing in these states

20.7% are under thirty years of age; 21.2% are thirty to thirty-nine years old; 19.3% are forty to forty-nine years of age; 21.8% are fifty to fifty-nine years old; 8.1% are sixty to sixty-four years old; 5.1% are sixty-five to sixty-nine and 4% are seventy or more years old.

Professional Personnel

Retail Pharmacies

With forty states and the District of Columbia, where there were 40,931 retail pharmacies, 45.8% were serviced by one pharmacist; 38.3% were serviced by two pharmacists; 12% by three pharmacists; 2.7% by four pharmacists; and 1.1% by five or more pharmacists. These figures are exclusive of part-time relief pharmacists. The addition of data from California with 2,826 serviced by one pharmacist has influenced the percentage of this chart, causing a predominance of one-man stores over the other categories.


Outlets of Distribution

Most states have a permit law and license outlets of drug distribution; those few states (four) that do not have such a permit law secure information from other sources. This year Boards report an increase in retail as well as hospital pharmacies with 54,345 retail and 2,781 hospital outlets. Some Boards do not have the authority to issue licenses to hospital pharmacies which would indicate that the total is no doubt larger than that given. Nevertheless, the states listing totals for hospitals, are of significance, however.

Miscellaneous Data

Current U. S. Bureau of Census figures list the population of the United States on January 1, 1961 as 182,257,000. Comparing this with the 116,709 pharmacists practicing in the states on this date, there would be one pharmacist for every 1,561 persons or approximately six pharmacists per 10,000 population. Boards list 105,734 pharmacists practicing in retail stores. On the basis of 54,345 retail stores reported this year, there would be 1.94 or approximately two registered pharmacists per retail store. Considering the population figures once more, we find that a ratio of one store per 3,353 population exists. This is an increase over last year's ratio 1: 3,262. It should be noted that the N.A.B.P. Chart listings are for the 48 contiguous states including the District of Columbia. They do not include Alaska, Hawaii or Puerto Rico.

PHARMACEUTICAL *Paper*



Health Humbuggery— A HARVEST OF DOLLARS, LIES AND DEATH*

In the south German town of Burg Prepach, door-to-door medicine peddlers have a sure-fire pitch. "Take one of these tablets each morning and night," they say, "and your brain will become sharp as a buzz saw." The stuff is nothing more than sugar but, so far as the buyer is concerned, it really works! Local police have given up trying to jail the quacksters because nobody who buys the "anti-stupidity" pills will admit he has been gypped.

There are no complaints, either, from a Chicago man who stopped taking insulin after falling for the "magic spike". This pencil-sized glass tube, containing less than a penny's worth of barium chloride but costing \$306, came with directions to "hang this around your neck and its rays will cure any disease you have." No complaints because the man is dead — diabetic coma.

Such is the tragicomic opera of the health phoney — clown and killer, corny con man and ruthless robber. He may be a smalltime half-informed cheat or a knowledgeable, cold-blooded quack millionaire. Are you amused at the spiel in his office, at his tent meeting, across his store counter, outside your door, through his mailings? Or, maybe you are so

desperately in need of help that you hang onto his every word? It matters not to the medicaster. He would just as soon hear a laugh as a sigh when he reaches for your money. A smirk doesn't faze him, either. For, medical quackery in America is far from trivial.

While there are no exact totals, reports from the Post Office Department, other federal agencies, state license examiners, national health organizations, better business bureaus and independent investigators indicate that:

—Health chicanery is practiced by at least 100,000 fakers whose "specialties" range from arthritis and cancer, to food fads and kitchen-table abortion; from diabetes and sex, to high blood pressure and hypnosis.

—More than 25 million Americans a year fall prey to this humbuggery, whether they swallow some line on a bogus health tonic or let themselves be strapped against an impressive-looking "invigorator" machine. Of these victims, at least 5 million suffer serious health setbacks, and thousands are hastened toward death.

—The annual take of this racket in all its phases probably exceeds \$1 billion, with the breakdown by category as follows:

Arthritis—This most fertile field for quackery yields a harvest of \$250 million annually

* Reprinted from *Medicine At Work*, October, 1961, published by the Pharmaceutical Manufacturers Association, Washington, D. C.

from nearly half of the nation's 12 million arthritics, according to the Arthritis and Rheumatism Foundation. As yet, there is no cure for the disease. More than 10,000 charlatans bank on statements such as this one from a Los Angeles victim who paid \$600 to a faith healer: "I know it's ridiculous, but I'm so desperate I'll spend any amount to get rid of this pain. Of course, the pain is still there."

Cancer—Four thousand phonies, says the American Cancer Society, make a killing of \$50 million yearly. Those with curable cancer die unnecessarily, those who cannot be cured are denied effective relief from pain, and those unafflicted who are led to believe they have cancer are disfigured by caustic concoctions. As with arthritis, another result is financial suffering.

Illegal Abortion—The incompetents in this operation take in between \$150 and \$300 million a year, and are responsible for at least 5,000 deaths. In a recent series in *The Saturday Evening Post*, seasoned reporter John Bartlow Martin calls abortion the nation's third biggest racket (after gambling and narcotics).

Food Fads and Self-Prescribed Nostrums—Upwards of 10,000 gyp artists, who haunt the fringes of truthful presentation with their fact-twisting pitches, are directly engaged in parting the sucker from his money. The combined take most likely is more than \$300 million annually, and—although this is not always outright quackery — there are more victims of financial weakening than in any other form of health deception. A recent Post Office survey reveals that this category represents the most popular health fraud in the U. S.

Psychoquackery — Not even an official "guestimate" is available of the number of these fringe operators, but their loot certainly is in excess of \$50 million annually, according to individual psychiatrists who often must undo the damage of those posing as metaphysicians, dianetic auditors, astrolotherapists, scientologists, theosophists, therapeutic hypnotists, etc. Several states recently began prosecuting these imposters for violating medical practice laws.

Other—The desperate diabetic, the bewildered venereal disease carrier, the skin di-

sease sufferer, the balding, the impotent, the flat-chested, others who find it easy to believe there are short-cut remedies outside the truly remarkable advances of established medical science—they also enrich the imposters in health. By how much? "If you put the figure at \$100 million, you probably are under-shooting the mark," says a veteran medical fraud investigator in Washington.

Fortunes, Heartbreak, Action

One U. S. Cabinet officer has publicly described quackery as "more lucrative than any other criminal activity." Postal authorities figure that the mail-order volume alone in worthless nostrums and health gadgets comes to \$50 million a year. Even more is pocketed by door-to-door dispensers of dubious health remedies, according to **GP**, official journal for family physicians.

Fortunes of individual health promoters have ranked with those of the gambling czars, vice kings and narcotics bosses—at least \$1 million a year each, for example, to the flamboyant goat-glander John R. Brinkley, the Denver cultist Leo Spears, and naturopath Harry Hoxsey. Before a Federal court cracked down on Hoxsey in 1960, cancer patients had paid an estimated \$50 million for his worthless treatment over a ten-year period.

"The quasi-medical underworld grosses each year from its victims a sum equal to half the annual sales of ethical drugs by legitimate companies," Austin Smith, M.D., president of the Pharmaceutical Manufacturers Association, said last December. "This shadow zone of wasteful medical cost requires as much exposure as its attendant heartbreak and death. When one witness told the Senate Subcommittee on Antitrust and Monopoly about these charlatans, never had a Congressional inquiry been handed a finer opportunity to launch a public crusade against criminal operatives in the health field. And what happened? Nothing."

But while the subcommittee failed to pursue the opportunity, others did. In October, in Washington, D. C. leaders in health, business, law enforcement and communications met in a First National Congress on Medical Quackery, sponsored jointly by the American Medical Association and the Food and Drug Administration. Their objective was to split the

sharpie from his victim—it takes at least two to tangle into fraud—by developing more effective blows against the charlatans, and better educating the public to quackery's perils and waste.

Why They Go to Quacks

This is no simple task. So long as women want beauty, men want virility, parents want strong children, and the sick want relief from suffering—so long as people desire health, and are not satisfied quickly or easily through legitimate channels, the pseudologist will emerge, ready to exploit them. It is because of this common human denominator of "perfection in wish" that quackery, dating back to 1500 B.C., sometimes is called the second oldest profession.

At times, the denominator plumbs fantastic depths. Little more than a generation ago, thousands of followers of health faddist Horace Fletcher were eagerly heeding his advice to chew each mouthful of food (even soup) 32 times—one for each tooth. Other cultists earnestly believed that women who adhered to the diet program of "Professor" Arnold Ehret could expect "immaculate conception." Ten thousand disciples of Dinshah Ghadiali conscientiously slept only with the head pointing north. Other desperate patients still have implicit faith in the advice of a present-day cancer quack who prescribes a certain root "which must be pulled with the left hand at the rise of the moon on Friday the 13th."

Faith, a potent and legitimate factor in orthodox physician-patient rapport, accounts for the isolated successes of some charlatans. Is it not medicine's challenge to demonstrate that while faith and science may indeed work miracles, one cannot fully succeed without the other? It would seem so, according to two recent reports. One is from Dr. Albert Helser, who notes that Nigerian witch doctors have been losing so much prestige lately that now they give aspirins with their incantations. The other is from a Houston physician who found the blood pressure of one of his hypertensive patients actually dropped after she followed the advice of a visiting witch doctor—that she wear 9 cloves around her neck on a silken thread. The Houston physician is advising her to wear her cloves and to take the medicine.

What Can Be Done

While the health racketeer cashes in most heavily with the mass-appeal spiel, not even the supposedly sophisticated are completely immune to his pitch. Among those who have fallen for the sharpie talk were George Washington (he praised a worthless health gadget), former Mayor Ed Kelly of Chicago (he defended the "magic spike"), and the late U.S. Senator William Langer (he actively supported a fake cancer cure).

Oliver Field, whose department of investigation at the American Medical Association handles 4,000 quack inquiries annually, is able to verify from his half million index cards that quackery in the U. S. knows no economic, educational or cultural barriers among its victims. An authority on cardiovascular diseases, Dr. William H. Gordon, says: "When it comes to thinking in terms of disease and death, we are not far removed from our distant forefathers, who believed in mysticism and magic and employed amulets and charms for protection."

At the same time, certain trends indicate that health humbuggery, and the gullibility on which it feeds, may yet be licked by concerted action of individuals in diverse groups:

—The growing efforts of health group leaders to expose and correct abuses of the few incompetents and charlatans who hide behind professional degrees.

—The fearless campaigns in all communications media to focus a spotlight of publicity on the implied stripes of humbuggery: Quick cure, secret cure, guaranteed cure, suppressed cure, testimonial proof of cure.

—The increasing enlightenment which has made legislators more persuasive and law officers more alert in attacks on the phonies.

—The recognition by more and more physicians that traditional courtesy, concern and confidence need not be a lost art in medicine — that the brusque or callous abandonment of a terminal cancer patient, for example, is the surest way of sending him to a sweet-talking quack.

Concurrently, ethical pharmaceutical and other orthodox scientific advances at last are uncovering tangible solutions to disease and disability problems which have stumped mankind for centuries. This progress, to-

gether with the healing touch of conservative medical practice, can enable patients to glimpse more hope in fact than in fantasy.

Health Humbuggery — Irony in Offbeat

Sometimes comically, other times tragically, many a health huckster has enacted the irony of his own undoing:

—One medical machine monger was arrested by postal inspectors for bilking short persons with his "pandicator", a kind of medieval rack on which the user was guaranteed to become five inches taller by lying in tension from gears pulling straps from the chin to ankles. This bamboozler measured 5 feet 2 inches in height.

—Several years ago the Miami Council of Churches denounced Jack Coe as a religious quack after he suggested that braces be removed from a boy stricken with paralytic polio. At a crowded tent meeting he shouted, "Jesus, heal this boy." Although the child's condition became worse, he survived the ordeal. But Coe died a short time later — of polio.

—In 1950 the seventh-place St. Louis Browns hired a "psychologist hypnotist" to eliminate self-

doubts supposedly acquired by the team's consistent losses. His contention was that the coordination of these players was being destroyed by "fear thoughts to the muscles." How did the Browns fare after hypnotic effort? They were still in seventh place when the season closed.

—Sales were ringing up for a Chicago mail-order dentist because of a much advertised testimonial which quoted a patient: "I received your plates today. They are beautiful and fit fine." His business came to an abrupt halt when a postal inspector forced the dentist to turn over the original letter which had a comma after the word "fine," and continued, "but every time I eat they fall out."

—In California, a mail-order medical faker persuaded one of his customers to testify that since taking his "drug discovery" she no longer needed insulin for her diabetes. This created enough doubt for a jury to disagree on a verdict. During retrial, the prosecutor read her testimony to another jury and then revealed her death from diabetes. This time there was a quick verdict of guilty.

—When postal inspectors called at the home of a promoter of a concoction for sufferers of sinus trouble "who wish to avoid surgery," the man was away. Where? In a hospital, recuperating from a sinus operation. Convicted, he was sent to prison.

FDA REPORTS ON DRUG COUNTERFEITING

In a progress report issued November 2, on its crack-down against drug counterfeiting, the Food and Drug Administration made these findings:

1. No counterfeits were found in a 1,300 sample survey of drugs believed likely candidates for counterfeiting, but not previously known to be counterfeited.

This survey was carried on from June 19 to July 31.

2. As a result of a survey of known types of counterfeits in February and March of this year, there have been nine seizures and six criminal prosecutions.

This campaign against types of drugs known to have been counterfeited is continuing, and other prosecutions are expected to be filed.

3. Thirty-two drugstores out of a special survey of 300 known to have done business with William L. ("Tex")

Palmer were found to have counterfeits in their possession. Palmer, doing business as Palmer & Co., of Houston, Texas, is the largest distributor of counterfeit drugs manufactured by General Pharmacal Company of Hoboken, N. J. General Pharmacal, in turn, is the source of all of the counterfeits whose source has been definitely identified by the Food and Drug Administration. A few samples have been shown not to come from General Pharmacal, but their source has not been identified, FDA said.

Commenting on the situation as it is now known, FDA Commissioner George P. Larrick made this statement.

"It is gratifying that our latest survey has not developed any evidence that drug counterfeiting has spread beyond the types of drugs known for several years to be counterfeited.

"It appears that the court actions already taken and the ones to be taken as a re-

sult of investigations now in progress have virtually stopped the counterfeiting racket. However, some phases of the investigation are still active and we will continue to keep a close watch for any new counterfeiting activities."

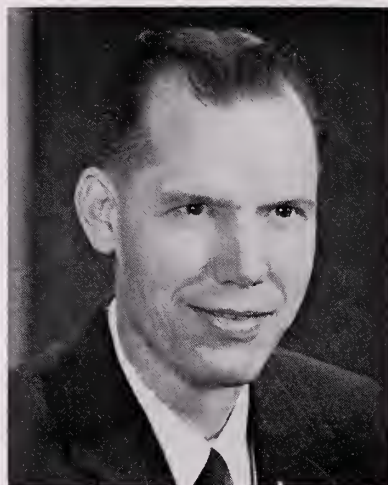
In its latest survey, FDA selected drugs of moderately high cost which are used over long periods of time for chronic ailments. The agency said that costly drugs purchased in large quantities by retail druggists are the most likely to be counterfeited.

STATE BOARD TO CONDUCT EXAMINATIONS

The Board of Pharmacy will conduct examinations for certificate of registration as licentiate in pharmacy at Brookings on January 9, 10, and 11, 1962. Examinations in written subjects will be conducted on January 9, beginning at 8:00 A.M. Practical examinations will start at 8:00 A.M. on January 10.

PRESIDENT'S PAGE

Rx

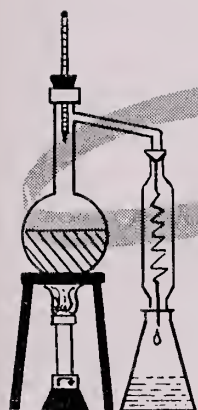


Merry Christmas to all of you! At this time, most pharmacists who are employed in retail pharmacy are busy with preparations for the big holiday shopping season. Store displays are being erected, newspaper advertising made ready, stocks are being checked, and Santa Claus figures and pictures appear. All of this seems to be part of the modern merchandising approach to Christmas.

How many of us take the time to reflect on the true meaning of Christmas? All of these things are just customs built around Christmas, which is a religious festival, not just an excuse for a merchandise promotion. Japan, which is not a Christian nation, celebrates Christmas with all the gimmicks that we use — Christmas trees, Santa Claus, decorations, merchandise promotions, etc. — but with none of the deeper significance of the season.

There certainly is nothing wrong with the customs that have grown up around the celebration of Christ's birth until these customs become so important to us that they blot out the true meaning — the celebration of the birth of the Savior of the world. So, as we prepare for the holiday season, we should try to keep things in their proper perspective — remember the true meaning, and realize that all these things that we do are human customs built around this Christian religious festival. Our country was founded on Christian principles, and will continue to exist and progress only as we adhere to those principles.

Philip E. Case



Advances In Drug Research

NEW ORAL SYNTHETIC PENICILLIN

A new synthetic penicillin promises a pill for effective control of infections caused by staphylococcal bacteria which are not controlled by natural penicillins or other antibiotics.

This promise is inherent in 21 reports read at a medical conference in the Roosevelt Hotel on a new synthetic penicillin which may be taken by mouth.

The new drug is a research development of Bristol Laboratories, Syracuse, N. Y.

Dr. Samuel Friedman and others of the Fairfield State Hospital, Newton, Conn., reported on Prostaphlin's effectiveness in control of "staph" infections among patients confined in a large psychiatric hospital where "overcrowding and decline of personal hygiene and habits" contribute to infection.

NEW SYNTHETIC TOPICAL CORTICOID CREAM

The first report of a large-scale, continuing test of a new synthetic cortisone-like hormone that promises to replace systemic oral or hypodermic treatment of severe skin disorders appears in the October issue of California Medicine.

The new medication, in a vanishing-cream form, was developed by Syntex Laboratories of New York City. Laboratory tests have established its potency as many times that of hydrocortisone.

Author of the report is Dr. Jud R. Scholtz,

clinical professor of dermatology at the University of California School of Medicine. Dr. Scholtz treated 327 patients with various skin diseases in two series. The first group, numbering 67, were reported on before the 1961 meeting of the California Medical Association. That paper constitutes much of the current report.

TOXICOLOGY Aspirin Poisoning*

Aspirin is not only the most common childhood poison, but is a particular threat to families with young children of preschool age.

Dr. Roger J. Meyer of Boston conducted a study based on systematic investigation of the development, health supervision and family life of 128 children involved in acetylsalicylic acid (aspirin) poisoning reported to the Boston Poison Information Center during 1959. Only one to five-year-old children were included in the study.

The investigator points out that in 1959, for example, 40 per cent of all medicinal and over 25 per cent of the total childhood poisonings were due to aspirin, "a number which has steadily risen in recent years . . ."

For purposes of this study poisoning was defined as "unpremeditated ingestion of acetylsalicylic acid by children."

The investigation revealed a direct relationship between the poisoning of the child and (1) family illness (74%), (2) exceptional resourcefulness on the part of the involved

FACTS OF INTEREST TO DRUGGISTS

Seventy percent of the prescriptions a doctor writes today are for drug products that didn't even exist a generation ago.



DRUGGISTS MUTUAL

INSURANCE COMPANY

HOME OFFICE

ALGONA, IOWA

Your public liability, both personal and professional, should be carefully insured. Let your Druggists Mutual fieldman tell you about our sound program of protection in this field.

SOUTH DAKOTA

child (45 of 128), and (3) chronic family imbalance (63 of 128). The great majority of ingestions involved candy-flavored aspirin contained in a "safety-cap" bottle.

Fifty ingestions took place in the kitchen, 26 in the bedroom, 16 in the bathroom and 2 in other rooms. "Most of the kitchen-bedroom ingestions followed careless exposure of acetylsalicylic acid during a family illness," Dr. Meyer explained. All but one of the children initially obtained the aspirin while on their own home ground.

The hour of ingestion was important. The majority occurred less than an hour before the child's regular mealtime — a time described by mothers "as my busiest moment" or "the one time of day when something else came up," mealtime preparations, telephone calls or visitors. Fewer poisonings occurred on weekends; families attributed the better record to the fact that more supervision was possible.

Family patterns also were of interest. With only one exception, all children had had previous experience with aspirin, usually the flavored variety. "Parents admitted that they encouraged acceptance by presenting it to children as 'candy,' and felt that this was an important factor"

Dr. Meyer urges the importance of educating parents "regarding inherent dangers of acetylsalicylic acid and other potentially hazardous materials used in and around the home."

* Reprinted from Schering Science Bulletin, August, 1961.

DR. S. ROBERTS RECEIVES AWARD

Dr. Stuart S. Roberts, Oak Park, Illinois, a senior resident in surgery at University of Illinois Hospitals, has been granted the ninth annual Mead Johnson Award for Graduate Training in Surgery.

The award is given to the doctor personally in the amount of \$3,000 a year for three years. Dr. Roberts plans to spend the next two years in Memorial Hospital for Cancer and Allied Diseases, New York, where he will study under Dr. Henry T. Randall, head of the department of surgery. There he will be engaged in cancer research.

Dr. Roberts is one of the authors of "The Vascular Dissemination of Cancer," which appears in this issue of the Journal.

PHARMACEUTICAL

EDITORIAL



Do Not Resist Change—Create Change

The economic and professional climate of pharmacy has been darkened perceptibly in recent months by many perplexing challenges. It is only human nature for an individual or a professional group to view such happenings with alarm. It is equally natural to build a mental rampart of resistance to change rather than to take the more realistic approach of determining what actions are necessary to meet and conquer these problems.

Among the many challenges facing pharmacy today, perhaps the one of greatest importance is that of developing a more effective line of communication with the American public. The job of constructing this communications system belongs to every practicing pharmacist. It is through your daily contact with the millions of pharmacy customers that good public relations can be developed. Who is more capable of answering the many questions of your customers on all things pharmaceutical than you, the practicing pharmacist? Have you told pharmacy's story with the sincerity and dedication it deserves? Are you willing and eager to discuss prescription prices with your patrons? If not, you are not doing your share toward the development of a good image for pharmacy.

We are currently faced with a challenge of unity and co-operation among all members

of the profession. The many organizations of pharmacy can be likened to the many arms of an octopus, and frequently these appendages are pulling against one another rather than toward a common goal. Now is the time for more than one hundred thousand pharmacists in the nation to take resolute and decisive action to weld the profession of pharmacy into a unified body with only one objective . . . the preservation of pharmacy as a profession.

Other challenges and changes have appeared on the scene which will require a searching of our minds to find the answers. We are now faced with the challenge of a changing type of competition, a challenge in the ever-pressing need for good pharmacists, and the challenge of adapting—mentally, physically, and economically—to medical progress.

It has been said that the only thing of permanence in the world is change. This is especially true when we view the history of pharmacy; and since history is nothing more than prologue, it appears that the future of our profession will bring even greater changes. We must accept the inevitable fact that these challenges will be forthcoming and attempt to develop, through a solidarity of purpose, effective methods of utilizing them for the betterment of the profession.

PHARMACEUTICAL NEWS



FEE CHANGES IN MINNESOTA

Fees for a pharmacy permit have been raised by the Minnesota Board from \$10 to \$20 following the passage of an amendment to the Pharmacy Act by the State Legislature granting the Board this authority. The new law also authorized a raise in the fees for a pharmacist's personal license from \$5 to \$15. The Board has now set this fee at \$10 for the present time and this will apply to licenses renewed in February 1962. The measure which was recently passed also permits the Board to license manufacturers for a fee of \$50. Also increased was the fee for a drug wholesaler's license from \$25 to \$50. The fee for reciprocity was advanced to \$50.

HIGH COURT UPHOLDS FLORIDA PHARMACY LAW

The United States Supreme Court has dismissed, for want of substantial federal question, a petition by a Florida pharmacist to rule on the constitutionality of the Florida law prohibiting pharmacists with two years of college from taking the Florida licensure examina-

tion. The petition was filed by Jacob Israel, a pharmacist registered in New York. The Florida law permits pharmacists who were licensed in the state with a two year degree prior to adoption of the present pharmacy law to continue in practice. It does not allow pharmacists who had a two year degree, after the passage of the act, and who are not practicing in Florida, to take the examination.

OKLAHOMA ENACTS BILL TO OK ASSISTANTS' EXAM- INATION FOR PRIOR APPLICANTS

Oklahoma's Governor Edmundson recently signed a bill which permitted the assistant pharmacists' examination to be given to any person who had previously filed an application for this examination before the effective date of Oklahoma's new Pharmacy Law which contains a provision for the abolishment of this type of registration. The new Bill contains a provision in an emergency clause making it effective immediately. It is being held in abeyance since there is now a suit pending in the Oklahoma courts against the Board of Phar-

macy which was instituted by a graduate registered pharmacists group. The suit pending in the court challenges the legality of granting licenses to any more than 100 persons who took the assistants' examination late in May after repeal of the old law which permitted this type of licensure.

APHA TO ISSUE NEW PUBLICATION

AphA Secretary William S. Apple announced the appointment of Donald E. Prescott as Assistant to the Secretary and Editor of a new bi-weekly publication for all members.

The new publication to be launched in January will be issued every other week by the Office of the Secretary to report Association activities and views and to interpret events and developments affecting the profession of pharmacy for APhA members. According to Dr. Apple, the publication will increase and hasten communications between members and the Washington headquarters and supplement the information disseminated by the APhA Journal and the Journal of the Pharmaceutical Sciences.

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14, #12

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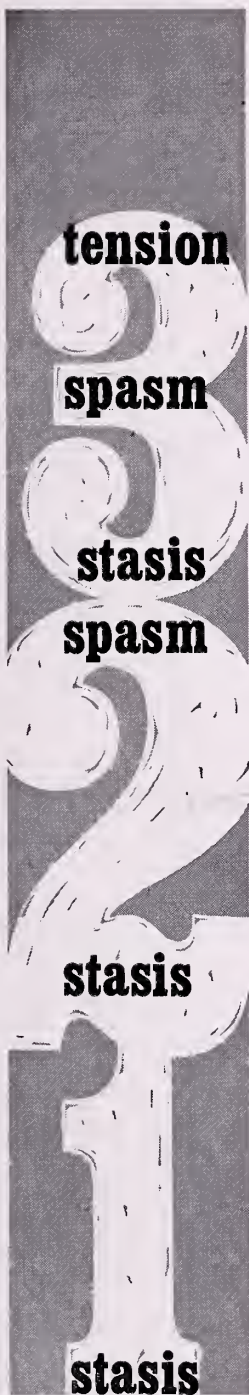
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Bibliography: (1) Jacobs, I.: GP 21:93 (Jan.) 1960. (2) Shulman, I.: J.A.M.A. 175:118-123 (Jan 14) 1961. (3) Moore, C. V., in Wohl, M. G., and Goodhart, R. S.: Modern Nutrition in Health and Disease, ed. 2, Philadelphia, Lea & Febiger, 1960, p. 243.

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